

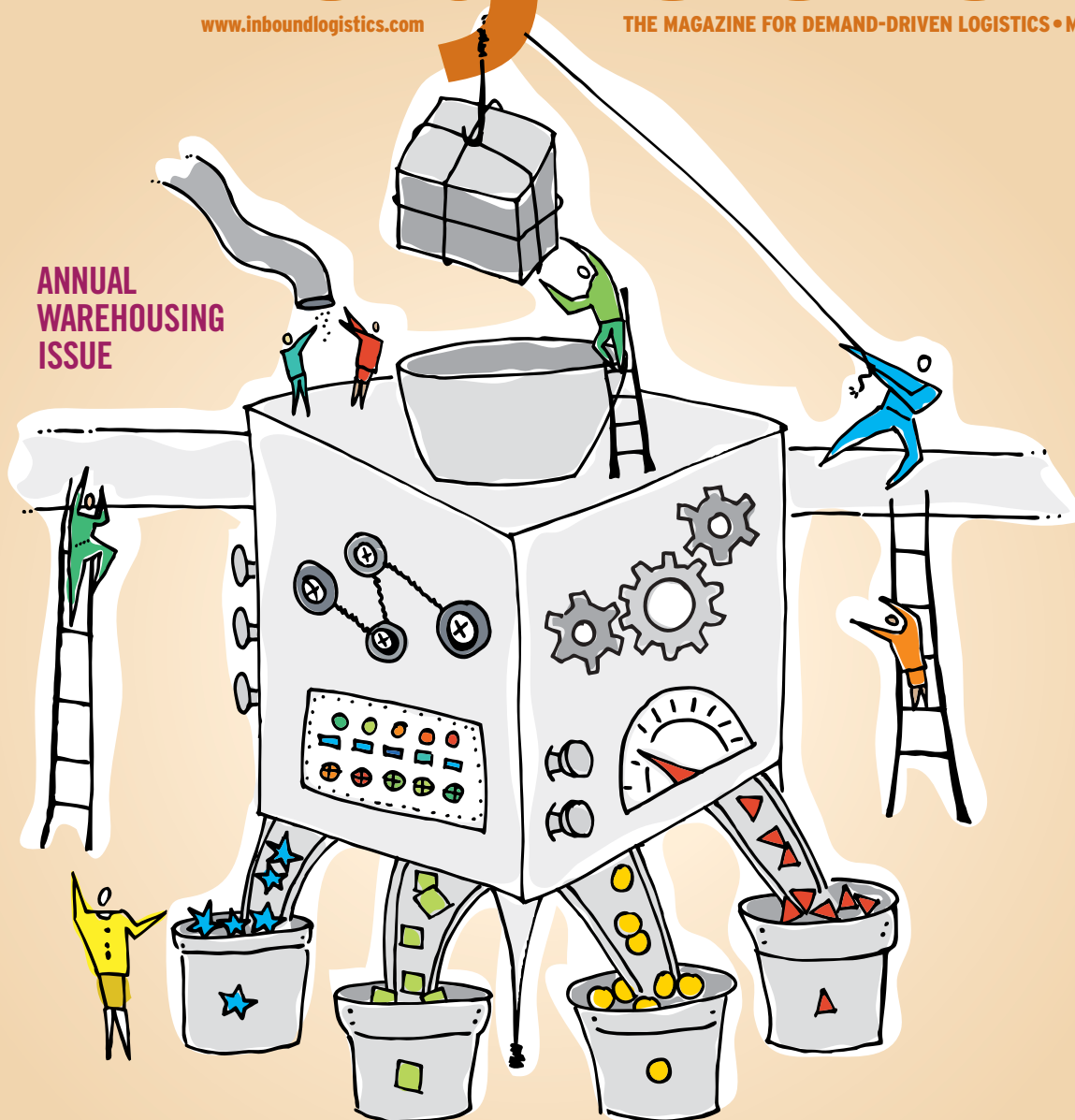
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CHECKING IN

Keith Biondo

by Keith Biondo | **Publisher**



You Say You Need A Bigger Warehouse?

If you think you need a bigger warehouse, you are not alone. Seventy-one percent of warehouse operators responding to an April 2014 Motorola Solutions survey have their sights set on expanding warehouse operations. Thirty-five percent of respondents say they want either more warehouse space or more locations, while 38 percent want to expand the size of their existing warehouses.

Why the need for bigger warehouses and/or more space? First, the economy is picking up in some sectors. Manufacturing activity increased in March and April 2014, trucking companies are reporting a noticeable uptick in demand, consumer confidence is improving (and that means spending), and car sales are up.

Second, the retail shift to e-commerce engenders a need for monster warehouses, and more than a few one-million-square-foot behemoth projects are currently underway in the United States. But even if you are not an e-commerce Godzilla, your customers are likely just as impatient and demanding. More transactions and market growth mean you need more warehouse space. Add the growing number of SKUs in many sectors, demand from the finance folks for faster inventory turns, and better reverse logistics performance, and there you are.

Increasing Space Without Increasing Space

If you've had experience with the warehouse bullwhip effect, you may be more careful about expansion. But there may be a way to increase your warehouse space without enlarging your footprint. Just as TMS creates additional transport capacity by better utilizing hard assets, for some, better warehouse technology—both high and low-tech—can push the walls back without calling a contractor.

Many *IL* readers are undertaking initiatives that integrate “islands of information”—ERP, WMS, WCS, YMS, TMS—realizing that one outdated or cranky link in that chain of technology can de-optimize the whole shebang.

As Suzanne Heyn's article Materials Handling Equipment: Sorting Through the Options (page 46) shows, faster flawless fulfillment driven by new automation can provide the phantom capacity you need in peak seasons. But so can better handheld and mobile technology—either dedicated or multi-use, like some of those low-cost, almost disposable Android devices. On the low-tech side, something as simple as floor leveling and repair can help you pick up a few productivity points.

I wouldn't be publisher of a magazine dedicated to promoting the benefits of demand-driven logistics if I did not point out that linking the inbound flow more tightly to your demand is one sure way to reduce inventory touches, returns, and customer service fails—making your warehouse bigger than it actually is. ■

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Inbound Logistics supports sustainable best practices. Our mission is rooted in helping companies match demand to supply, eliminating waste from the supply chain. This magazine is printed on paper sourced from fast growth renewable timber.

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22 APRIL 2014

Georgia: Logistics Sweet Spot

bit.ly/1iyXhns

Michael Stewart

Great article. This paints a very accurate picture of why Georgia is in such a positive growth position in the southeastern market with logistics opportunists and those interested in relocating their business to Georgia. A state government that is pro-business, yet stands firmly behind quality of life.

Everyone wins.



The City of Greensboro, N.C., is searching for the perfect idea to spur long-term economic development and growth, and enhance the city's overall quality of life. As part of the Strong Cities, Strong Communities Challenge, multidisciplinary teams are invited to submit strategic plans and compete for cash prizes from a pool of \$1 million. The competition, sponsored by the U.S. Department of Commerce's Economic Development Administration, is designed to stimulate job growth and business

expansion in Greensboro, as well as Hartford, Conn., and Las Vegas, Nev.

Participants can submit any ideas for economic development, but may elect to focus on Greensboro's five industry clusters, including transportation and logistics, aviation, innovative manufacturing, life sciences, and specialized business services. A panel of judges will evaluate proposals to determine if they are feasible, local, and innovative.

The deadline for registration is July 24, 2014, and proposals must be submitted by Sept. 22. For more information visit greensboro.sc2prize.com.

— Nancy Vaughan,

Mayor, Greensboro, N.C.



Inbound Logistics

19 MARCH 2014

163 Ways to Supercharge Your Supply Chain – bit.ly/N2A3xt

Stitch Labs @StitchLabs (via email)

@ILMagazine – Here are some additional tips. **Stock Layout Analysis:** If certain items are often ordered together, stock them that way. Each seller is going to be different, but if you analyze your



@SciQuest

7 MAY 2014

SciQuest uses Times Square to share the news about its Top 100 Logistics IT Providers nod from *Inbound Logistics*.

order data and have statistical support showing that Product A is most often ordered with Product B, then decrease picking time by placing these products more closely together. **Traffic Barrier Elimination:** This may seem obvious, but be sure there are no barriers in the main traffic area. It's easy to put off organizing shipping boxes or unpacking items, but if your team is stacking large barriers that keep you from fulfilling orders, you're going to encounter a backup in moving out shipments.

HOT TOPICS | IL articles getting the most impressions on LinkedIn: Tapping Social Media to Power Your Supply Chain: bit.ly/QVhhK8 • FTZ: Basics & Benefits: bit.ly/1mvsawN • 2014 Top 100 Logistics IT Providers: bit.ly/1hHAGZj • U.S. Beer Imports by Total Value: bit.ly/1jxQluN • Georgia-Logistics Sweet Spot: bit.ly/1iyXhns

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10TIPS

STEP-BY-STEP SOLUTIONS

by Deborah Catalano Ruriani

Ensuring Import Compliance

Companies moving products into the United States must not only develop expertise about U.S. Customs and Border Protection (CBP) regulations, but also make a continual effort to stay up to date on changes to the rules. Paul Rasmussen, CEO of Zepol, a Minnesota-based provider of international trade tools, offers these tips for ensuring customs compliance for your import shipments.

1 Get to know ACE. Scheduled for completion by December 2016, CBP's Automated Commercial Environment (ACE) will be the primary system through which the trade community reports imports and exports, and the government determines admissibility. Start using ACE features now to stay ahead of the game.

2 Understand the Harmonized Tariff Schedule (HTS). An HTS code is a 10-digit product code CBP assigns to every good based on its name, use, and materials used in its construction. These codes determine the tariff and duty rates for traded products.

3 Know your products inside and out—literally. Your product's composition can affect its HTS classification. For example, CBP might classify a rhinestone headband as "an article of glass

rhinestones," with a duty rate of 6.6 percent, rather than "an accessory," which carries a 14.6-percent duty rate.

4 Choose the correct HTS code. Don't try to beat the system. Assigning an inappropriate classification code because its tariff and duty rates are lower could incur penalties of up to 48 percent of the goods' value.

5 Update your HTS classifications periodically. Some importers stick with a safe and accurate HTS classification long-term, but it pays to keep up with duty rate revisions. You could miss out on a lower duty or even a free trade agreement. And CBP modifies classification of products, so the code you chose two years ago may not be valid, or even exist, today.

6 Monitor quota levels. Determine whether your product is subject to an absolute quota, which limits the volume of a specific product that can be imported, or tariff-rate quota, which limits how much of the product can be imported at a lower duty rate. If there is a quota restriction, see how much of your product has already been imported for the quota's time period. Monitoring this level, and the fill rate, will help you plan future import volumes and save money.

7 Stay current on the rules. CBP publishes its classification rulings and clarifications based on importers' questions and petitions. Check these, as well as International Trade Administration letters and rulings, monthly.

8 Double-check your customs broker's classifications. Using customs brokers is a great option, but letting them classify your product without review is a bad idea. If a broker decides your product falls into one category, but the CBP decides it belongs in another, your company—not your broker—is liable for the misclassification.

9 Consider using a Foreign Trade Zone (FTZ). If your product isn't staying in the United States, or you are not officially importing now, you may benefit from using an FTZ—a specified trading area for storing products without clearing Customs and paying duties. You could store the goods and wait for quota levels to reopen, or even finish assembling the product, then pay the finished goods duty, which may be lower than the unfinished goods duty.

10 Consult with an expert. A trade law expert can provide invaluable advice and education. ■



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Bud Snodgrass is director of logistics at Universal Lubricants in Wichita, Kansas. He joined the company in 2013.

RESPONSIBILITIES

Distribution, including warehousing and customer service at 17 distribution centers; all inbound and outbound transportation.

EXPERIENCE

Several positions in marine claims, scheduling and distribution, sales, and other areas, Koch Industries; account executive, Trane - Asset Management Services; vice president of global logistics, The Coleman Company; director of North American operations and supply chain, Elmer's Products; managing director, Zesta Golf

EDUCATION

BBA, Wichita State University

Bud Snodgrass: Oils Well That Ends Well

UNIVERSAL LUBRICANTS CREATES ITS PRODUCTS from recycled oil that we collect from other petrochemical companies throughout the United States. We have it tested, then ship it to our re-refinery in Wichita.

There, we create EcoClear, an extremely pure, water-white base oil, which we sell to other manufacturers and use as the basis for our own products. We sell our products through a variety of channels for use in manufacturing, agriculture, transportation, and other industries.

I'm responsible for the company's transportation, which includes shipping used oil to the re-refinery, moving product to our 17 warehouses, and distributing from there to customers. We use a range of equipment, from 53-foot vans to bulk trucks to rail cars.

For many shipments into or between our own facilities, we use commercial carriers. But we also operate a fleet of about 240 power units and 80 trailers to transport product from our distribution centers.

This is the first job where I've been responsible for a sizable fleet employing drivers on the payroll. Driver retention and equipment maintenance are big challenges in our industry, but the biggest challenge we face is safety.

Transportation and distribution operations comprise a lot of moving

The Big Questions

How do you unwind?

I work out, play basketball with my sons, and go golfing with friends.

When you were a child, what did you want to be when you grew up?

My dad made a career in the Air Force, so through much of my childhood I wanted to be a fighter pilot, then a commercial airline pilot.

What does it take to build a great logistics team?

Through its communications and actions, a logistics team must make sure customers know how much you

care about them. You have to align with excellent partners to help serve those customers, and you have to treat partners as well as you do customers.

What work-related mistakes have you found most instructive?

Ego lies at the root of many mistakes. Developing a continuous improvement culture begins with checking your ego. When you realize that everybody is working to find the best answer, not advocating their version of the right answer, it becomes easier to solve problems and minimize errors.

parts—workers driving forklifts, picking product, and maneuvering trucks into tight spaces at customer facilities. Promoting safety in that environment is a continuous effort.

One strategy we use is behavioral safety training. Employees commit to pointing out unsafe practices so we can correct problems. Getting workers involved is key to creating a safe environment.

One satisfying period in my career is the four years I spent at the Coleman Company, a camping equipment manufacturer. The company was in trouble at

the time, and a friend I had worked with at Koch Industries recruited me to help improve Coleman's operations—an effort that included moving some manufacturing to China.

We spent two years in what I call painful reorganization. One major challenge was building a department to unite demand planning and supply planning, to ensure Coleman would always have products where it needed them, when it needed them.

A personal challenge was taking on responsibility for managing customs,

which I had never done before. It took a while to get all our processes in place. Then, about one year into the project, U.S. Customs and Border Protection announced it would audit us. Eventually, we hired a manager to help ensure compliance.

We endured a lot of pain, and worked many long hours. But through some heroic efforts, we were able not only to save an iconic brand, but also to keep the company in business. Coleman is doing very well today, and I am proud of the role I played in that accomplishment. ■

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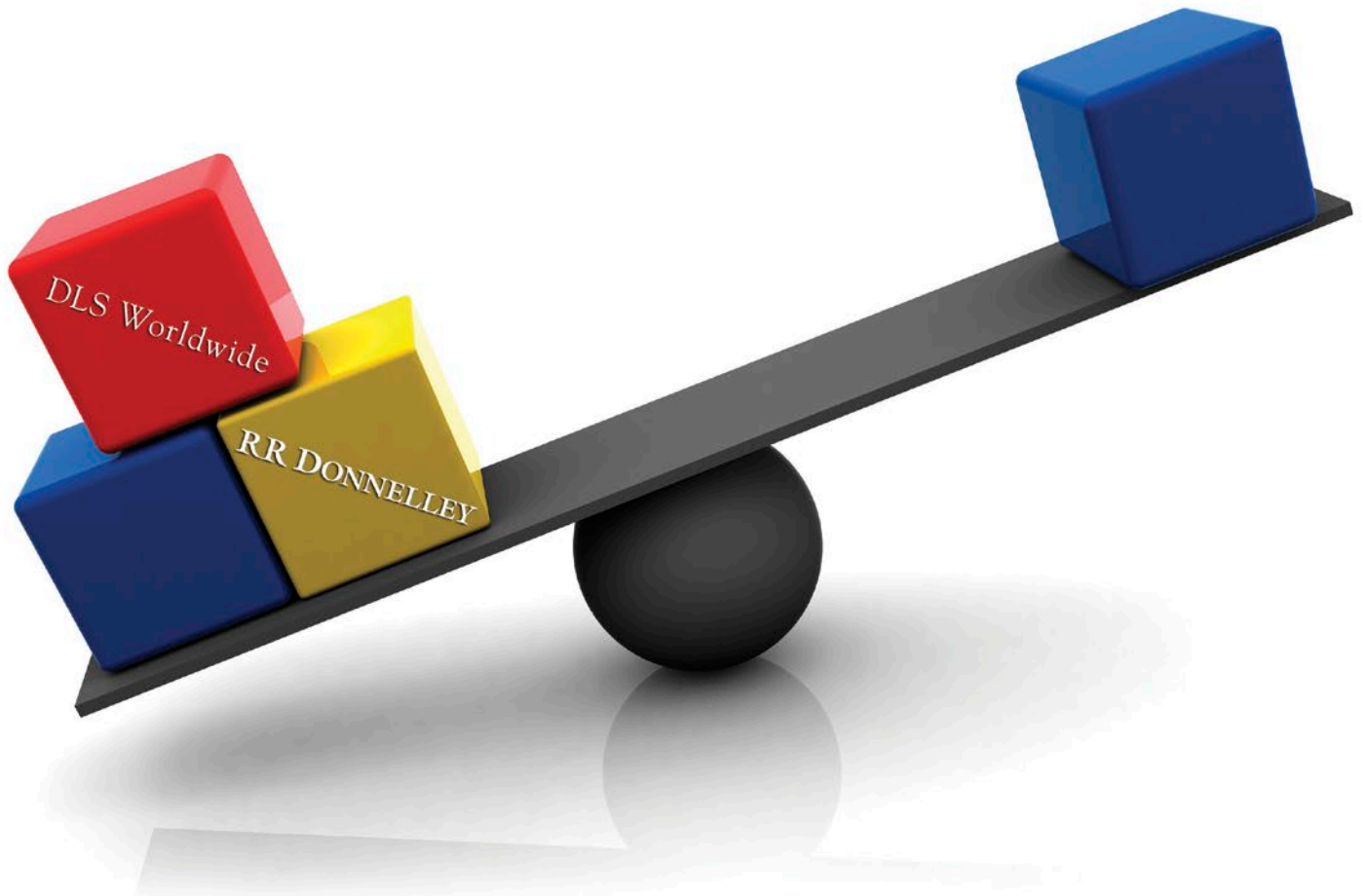
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NOTED

THE SUPPLY CHAIN IN BRIEF



GREEN SEEDS

◀ **Georgia Ports Authority** created nearly 14 acres of wetlands within the Port of Savannah's Garden City Terminal. The project treats more than 100 million gallons of water annually, and creates a natural wildlife habitat for fish, amphibians, and birds.

Hewlett-Packard, UniFeeder, China Shipping Container Lines, Evergreen Marine Corporation, and Mediterranean Shipping Company joined the Clean Cargo Working Group, a global business-to-business initiative comprised of cargo carriers and shippers dedicated to improving environmental performance in ocean container shipping operations.

SEALED DEALS

▼ The European supply chain for **Google's Chromecast** media-streaming device is now managed by **Tech Data Europe**, a



wholesale technology distributor. Tech Data provides transportation management, fulfillment, forecasting, procurement consolidation, inventory management, and invoicing and collection services.

Industrial gas supplier **Linde AG** selected **Arkieva's Supply Chain Planner** software to integrate distribution management, energy procurement, and plant production. Arkieva's solution allows Linde to improve decision-making processes and avoid supply chain disruptions.

New Zealand wine bottler **WineWorks** implemented **Manhattan Associates'** SCALE product suite in its Marlborough and Hawke's Bay warehouses. The company chose the supply chain commerce solution to accommodate increased customer demand.

Agility Logistics signed a contract with **Clarion Defense and Security Events** to provide international and on-site freight handling services for the Defense & Security Equipment International Security supply chain exhibitions in 2015 and 2017.

mla

Third-party logistics company **Trinity Logistics** acquired **Legacy Transportation**, a provider of truckload services. The acquisition allows shippers access to an improved suite of services, including less-than-truckload, intermodal, warehousing, transportation management software, logistics consulting, and freight management.

GOOD WORKS

Penske Truck Leasing

funded a new 1,900-square-foot multi-purpose room at the United Technical Institute in Exton, Pa. The Penske Room functions as a classroom and a lab, and is also used for presentations, training seminars, and student-peer tutoring.

Minnesota Business Magazine honored **C.H. Robinson Worldwide** with a Community Impact Award in the Workplace Giving Campaign category. C.H. Robinson employees participated in the Walk to Cure Diabetes, sponsored by the MinnDakotas chapter of the Juvenile Diabetes Research Foundation, and have raised more than \$548,000 for the group since 2001.

recognition

RGL Logistics' In-Plant Division reached **one million work hours without an OSHA recordable safety injury**. The milestone comes on the heels of 2013 safety awards from the Wisconsin Safety Council and Wisconsin Department of Workforce Development.

NASSTRAC named **Old Dominion Freight Line** its **2014 Carrier of the Year** in the multi-regional less-than-truckload category. This is the second consecutive year that ODFL received the honor, which recognizes carriers for service and operational

excellence, competitive pricing, business relationship effectiveness, executive leadership, and technological innovation.

► **Cardinal Logistics Management Corporation** received the **Carrier of the Year** award from United Natural Foods for its on-time performance, product temperature integrity, and fuel-saving initiatives.

Bennett International earned a **2014 Top 100 Workplaces in Atlanta** award from the *Atlanta Journal-Constitution* for

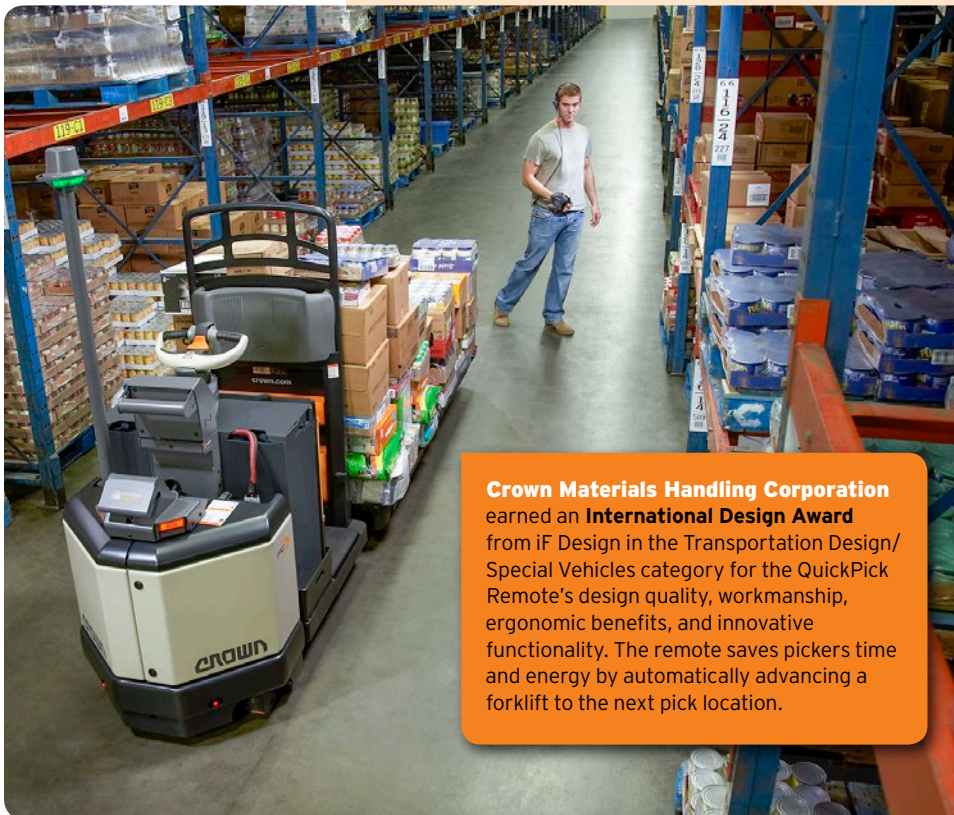


the third consecutive year. The publication chooses companies based on information obtained through employee surveys.

The International Warehouse Logistics Association (IWLA) gave its first **Jock Menzies IWLA Distinguished Service & Leadership Award** to former IWLA President and CEO **Joel D. Anderson** to recognize his leadership and service to the third-party logistics sector, and to IWLA.

Wheels Group earned platinum status in **Canada's Best Managed Companies** program for the 17th consecutive year. The 3PL was evaluated on how it addresses new technologies, globalization, brand management, and leadership, as well as designing information systems, and hiring the right talent.

Southwest Airlines Cargo received the **Domestic Carrier of the Year** award for the fifth consecutive year from the Airforwarder's Association in recognition of its commitment to high performance and quality standards.



Crown Materials Handling Corporation earned an **International Design Award** from iF Design in the Transportation Design/Special Vehicles category for the QuickPick Remote's design quality, workmanship, ergonomic benefits, and innovative functionality. The remote saves pickers time and energy by automatically advancing a forklift to the next pick location.

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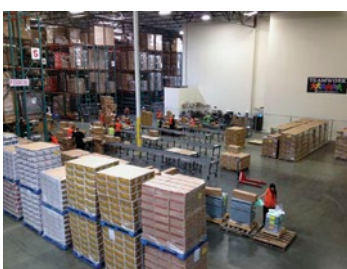
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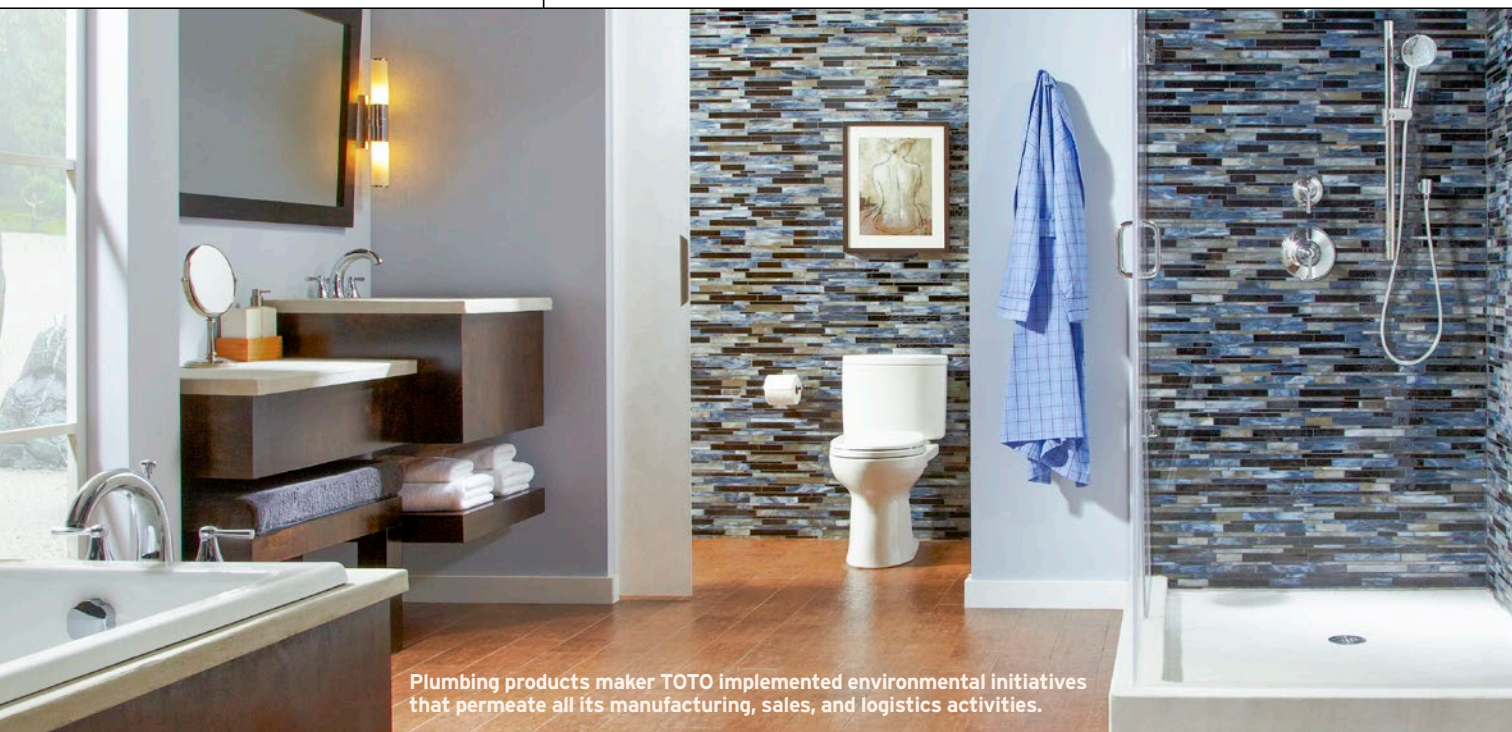


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TRENDS

SHAPING THE FUTURE OF LOGISTICS



Plumbing products maker TOTO implemented environmental initiatives that permeate all its manufacturing, sales, and logistics activities.

TOTO Plumbs the Benefits of Green

by **Joseph O'Reilly**

To gain favor among ethically conscious customers, retailers and manufacturers continue to put a marketing spin on sustainability. Greenwashing has many shades. Often it surfaces in buzzwords such as eco-friendly and recycled. Sometimes it reveals itself as trust in a brand, or the type of ingredients found in a product. Rarely does it pinpoint where a product is sourced from, the country of origin's green politics, or the carbon emissions trail to market. If global companies are touting their greenness, sourcing strategy should be an important sustainability metric.

Many companies position themselves as green, but fail to deliver when you lift up the hood on their supply chains. Others get it.

One company that gets it is Japan-based TOTO, the world's largest plumbing products manufacturer. Its U.S. headquarters is located in Morrow, Ga., site of a manufacturing facility

that pumps out 22,000 toilets every month. Over the past decade, the company has made a concerted effort to push sustainability throughout its entire organization. Bill Strang, vice president of operations at TOTO, gave attendees of the March 2014 MODEX Expo in Atlanta an inside look at its global supply chain.

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“Water energy and the environment hugely impact the way we bring product to the marketplace, what we do during manufacturing, and how we position product for the markets that we serve,” explains Strang.

The company’s commitment to green led it to rethink its overall sourcing and manufacturing strategy. The change has been notable. One decade ago, 70 percent of all products that TOTO brought into the Americas came from Asia, primarily China. Today it manufactures and supplies 73 percent of products that move into the Americas from the Americas.

Re-shoring is a logical alternative, Strang says, thanks to a litany of obstacles in Asia: increasing labor and ocean freight costs, currency exchange rates, duty impacts, fewer tax rebates, longer lead times, higher inventory, and political instability.

“I can manufacture a toilet in Morrow, Ga., cheaper than buying it from the best factory in Beijing and shipping it to the United States,” Strang says. “The Asian headwinds that are building up

incentivized us to rethink our strategies, and build small, nimble manufacturing facilities in regions where we do business.

“We also see a lower cash impact,” he adds. “When product comes in from China, it takes six to eight weeks to get it on shore. That’s six to eight weeks of cash tied up in inventory when we can use that cash supply for capital investment.”

Building Credibility

One decade ago, the outsourcing trend was predicated on reducing green expense, not exposure. But times are changing. Strang believes consumers are more cognizant of what they are buying, and that it is easier to stop the green spin, and instead explore its credibility.

“Today’s consumers are anxious and concerned about transparency,” he says. “They don’t believe marketing collateral anymore; they believe what they can verify on the Internet.”

While that may be debatable, TOTO’s success is genuine. The manufacturer incorporates sustainability into all its

processes. Sometimes it gets “wonky” with the lengths to which it will go, adds Strang.

For example, TOTO is the first company in the world to participate in UPS’s carbon neutral shipping program. The expediter measures the ZIP code to ZIP code distance freight travels, then buys carbon offsets accordingly. TOTO pays a little more in freight costs, but reaps an enormous publicity dividend. And green savings elsewhere offset the additional expense.

TOTO removed hydrocarbon-based oils from forklifts in its factories, and replaced them with soybean oils. The company also ships every other toilet upside down, reducing transportation costs. How? Because toilets are L-shaped, double the number of pieces can fit into trailers by simply changing the load optimization paradigm.

TOTO’s sustainability value proposition contains no pretense. Green seeps into every aspect of its global operation– from manufacturing to sourcing strategy to load optimization, keeping the company flush with success.

Congestion Jams Up Trucking Costs

As the Obama administration floats a new transportation bill to Congress, sobering figures from the American Transportation Research Institute (ATRI) provide another indication of the dire state of U.S. infrastructure, and the greater impact on freight transportation.

Congestion on the nation’s interstate highways added \$9.2 billion in operational costs to the trucking industry in 2013, according to research from the Arlington, Va.-based not-for-profit research institute. ATRI sifted through motor carrier financial data, along with billions of anonymous truck GPS data points to calculate congestion delays and costs on each mile of interstate roadway.

Delays totaled more than 141 million hours of lost productivity – the equivalent of 51,000 truck drivers sitting idle for one working year.

ATRI’s analysis also documents states, metropolitan areas, and counties with the highest congestion costs. California led the nation with \$1.7 billion in costs, followed by Texas with more than \$1 billion. The Los Angeles metropolitan area experienced the highest cost at nearly \$1.1 billion, and New York City was close behind at \$984 million (see chart, right). Congestion tends to be most severe in urban areas, with 89 percent of costs concentrated on only 12 percent of interstate mileage.

Congestion Costs of Top 10 Metros

1. LOS ANGELES, CA	\$1,081,748,940
2. NEW YORK, NY	\$984,287,793
3. CHICAGO, IL	\$466,939,275
4. DALLAS, TX	\$406,130,727
5. WASHINGTON, DC	\$379,356,852
6. HOUSTON, TX	\$373,603,620
7. PHILADELPHIA, PA	\$292,141,937
8. SAN FRANCISCO, CA	\$288,629,957
9. BOSTON, MA	\$278,238,672
10. ATLANTA, GA	\$275,126,523

Source: American Transportation Research Institute

Skill is moving inventory from here to there.
Will is caring about your business enough to improve your bottom line.

Skill is flawlessly solving a client's problem.
Will is doing it before they ask.

Skill is knowing how to fix a truck.
Will is doing it on a holiday. In an ice storm.

Skill is expediting a shipment.
Will is getting it to a secret government location.

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Industry Contraction To Expand

Merger and acquisition activity is heating up in the transportation and logistics sector, suggesting that carriers and third-party logistics providers are either feeling more confident about their economic footing, or sense now is the right time to act. Consolidation in the trucking industry, which was rampant in 2013, is likely to continue.

2013 finished on a strong note, with a 57-percent increase in deal volume, and more than a 100-percent increase in deal value in the fourth quarter, according to professional services firm PwC.

The company predicts stronger demand ahead, supported by continued global economic expansion, and global industrial production. Acquirers should remain cautious, however, and continue to focus on small, local deals with more easily achievable synergies.

Some key takeaways from the PwC report include:

- There were 66 deals worth \$50 million or more in Q4 2013, totaling \$23.2 billion, compared to 42 deals worth \$10.7 billion in Q3.

- Local market deals led Q4 with 71 percent of activity, and the proportion of local market volume reached a 10-year high in 2013.

- Infrastructure targets accounted for the majority of mega deals (\$1 billion or more) in 2013 – with particular interest in airport and port assets contributing to high media valuations for all 2013 announcements.

Bringing Last-mile Service Online

The omnichannel revolution is picking up speed unabated. One recent example: Amazon is ready to jump into the home delivery game, according to the *Wall Street Journal* (WSJ). The Christmas 2013 debacle, when millions of FedEx and UPS parcel shipments failed to arrive on time, created conjecture about how industry will be able to cope with growing last-mile requirements.

Amazon has already entered the fray with its Fresh delivery service in select West Coast markets—a play that some suggest is merely a means to get into homes more frequently, and has little to do with establishing a viable grocery delivery business.

“Amazon is growing at a faster speed than

solution. It is a program that will revolutionize how shipments are delivered to millions of customers.”

Amazon has been testing a delivery service in San Francisco, and has begun openly testing a transportation network in the United Kingdom that deals with last-mile deliveries.

During Amazon’s first-quarter earnings call in April 2014, Tom Szkutak, chief financial officer, circumvented the question of whether the company was bringing more fulfillment services in-house.

“We continue to work to become closer to customers,” he said. “And we’ve done that in a number of different ways. Just



Amazon is pursuing last-mile leverage with its Fresh service, which provides same-day and early morning delivery of groceries and other products, as well as Amazon.com items.

UPS and FedEx, which are responsible for shipping the majority of our packages,” according to a recent job posting on the Amazon website.

“At this rate, Amazon cannot continue to rely solely on the solutions provided through traditional logistics providers,” the post says. “To do so will limit our growth, increase costs, and impede innovation in delivery capabilities... Last mile is the

footprint we have from a fulfillment capacity standpoint enables us to get great selection even closer to customers.”

But the writing is on the wall. Amazon’s Kiva acquisition in 2012 gave it the fulfillment technology clout to optimize that aspect of its business. Creating a proprietary delivery network—whether investing in assets and/or partnering with local couriers—may be its only option to compete

with brick-and-mortar retailers that are beginning to leverage their local presence to better meet consumer needs.

Walmart, for example, has more than 4,600 retail locations—including five different store formats—across the United States. It has been reported that two-thirds of the U.S. population lives within five miles of a Walmart store. That's miles closer than Amazon can ever get through its 60-plus regional distribution and fulfillment centers. This penetration gives stores an advantage over e-commerce when it comes to value-added service offerings such as same-day delivery.

Now that Walmart is introducing smaller, targeted retail formats even closer to demand—and tethering inventory replenishment to larger super centers—Amazon and others have to step it up to stay ahead of the demand curve.

While a move toward creating its own

delivery service could cut costs for Amazon, it would likely also give the company one more tool to lure customers away from brick-and-mortar stores and onto its website.

Aligning Supply Chain and Business Strategies

A company's supply chain strategy should dovetail with its broader business roadmap. That's according to 80 percent of respondents to *Aligning Supply Chains with Business Strategy*, a recent survey conducted by Tompkins Supply Chain Consortium. The more important question is whether companies have a supply chain strategy to begin

with—and how much clout that direction has within the extended enterprise.

"The better the level of alignment, the more likely it is that companies are achieving their objectives for cost reduction, customer service, and other metrics," explains Bruce Tompkins, executive director of the Consortium, based in Raleigh, N.C.

From a global view, survey participants from North America believe their supply chains are of greater value to their companies than do the rest of the world. While global companies rate higher for cost reduction, inventory, customer service, and profitability, the degree of alignment is higher at North American companies.

"Supply chain is integral to overall company success, and can spark innovation in the entire organization," adds Tompkins. "The greatest takeaway from this report is that the importance of an integrated strategy cannot be ignored." ■

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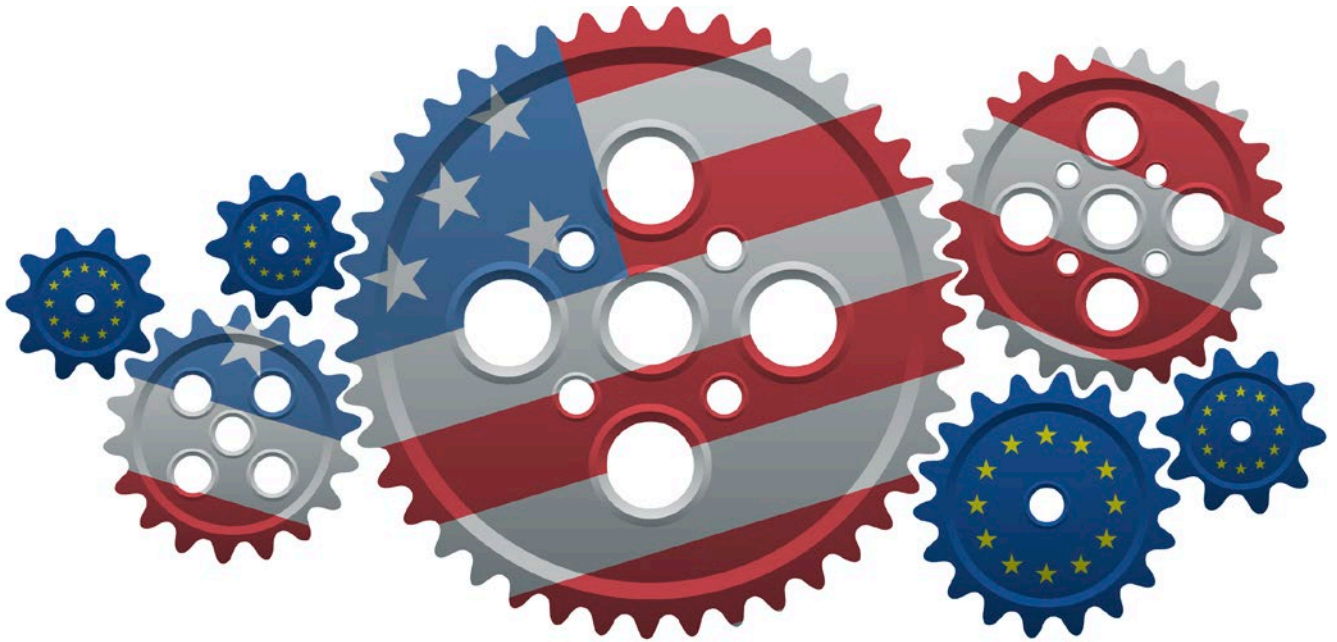
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GLOBAL

THE WORLD AT A GLANCE

by Joseph O'Reilly



U.S. Welcomes European Invasion

A European invasion is coming, but no need to worry—U.S. retailers will be welcome beneficiaries. Many U.S. companies are exploring European materials handling and last-mile strategies as omnichannel complexity, delivery urgency, and urban logistics complicate new market opportunities.

A few notable examples of this European invasion were on display at the March 2014 MODEX Expo in Atlanta. One is Swisslog's robotic AutoStore small parts storage system—which optimizes the use of labor and space, two constraints pervasive in Europe. There are only a few installations in the United States thus far, but Bill Leber, Swisslog's director of business development, expects the system to gain traction because emerging retail and distribution dynamics are changing the way companies view their automation architecture.

Businesses are moving toward more decentralized DC networks, with facilities located closer to demand. They want to consolidate inbound moves, and keep expensive last-mile transportation in

check. Consequently, warehouse footprints are trending smaller, which requires a different type of storage solution. Leber even envisions brick-and-mortar retailers eventually using the AutoStore system in their back rooms to fulfill direct-to-home orders.

The omnichannel phenomenon is creating new retail formats at same-day speed. Walmart, for instance, now operates five different types of stores: the Supercenter, Sam's Club, Neighborhood Markets, Express stores, and Campus stores. The retailer is also starting to leverage these footprints in unique ways—tethering smaller stores to larger ones, for example.

At the same time, the world's population is getting denser. "By 2050, 85 percent of the developed world population will live in cities," notes Alan Erera, associate professor and chair for graduate studies at Georgia Institute of Technology. "In the United States, urban population growth is currently outpacing the suburbs."

This densification requires new tactics to manage e-commerce growth, omnichannel complexity, and expedited delivery demands.

Space has always presented a challenge in Europe—especially in densely populated cities. Continental service providers, who have been dealing with the space problem for years, developed some innovative distribution strategies for managing timely deliveries and same-day service.

“Europe is adept at ensuring timely deliveries in dense areas,” explains Bobby Miller, global CPG strategist for planning software vendor ORTEC. “The strategy is all about mom-and-pop stores, smaller trucks, and fulfilling from everywhere.”

Atlanta-based ORTEC has been helping European grocers use technology in innovative ways. While urbanization presents routing challenges, retailers can focus on value-added last mile, direct-to-home delivery services if they work in high-volume markets, which Europe has in abundance.

At the MODEX Expo, Miller demonstrated how some grocers are getting away from traditional planning—instead seeing



U.S. companies are looking to Europe for solutions such as AutoStore, which picks and stores single items and small cases, to optimize use of available space.

order fulfillment as a constant churn of data transmissions and route optimization. He cited Dutch international retailer Ahold, which is using ORTEC’s technology, and a network of distribution hubs and local depots, to fulfill same-day orders in Rotterdam—within 18 hours of order acceptance.

Belgium-based Delhaize Group has enjoyed similar success in Greece with a hybrid omnichannel approach. It leverages a network of seven hubs, 50 satellite neighborhood stores, and 100 trucks to fulfill online, phone, click-and-collect, email,

and fax orders—all same day. The key differentiator is continuous planning and dynamic route optimization.

European technologies and strategies have had time to develop and mature. As U.S. companies start tackling similar parameters—especially in the context of smaller footprints and omnichannel complexity—a working lab with empirical results is just a continent away.

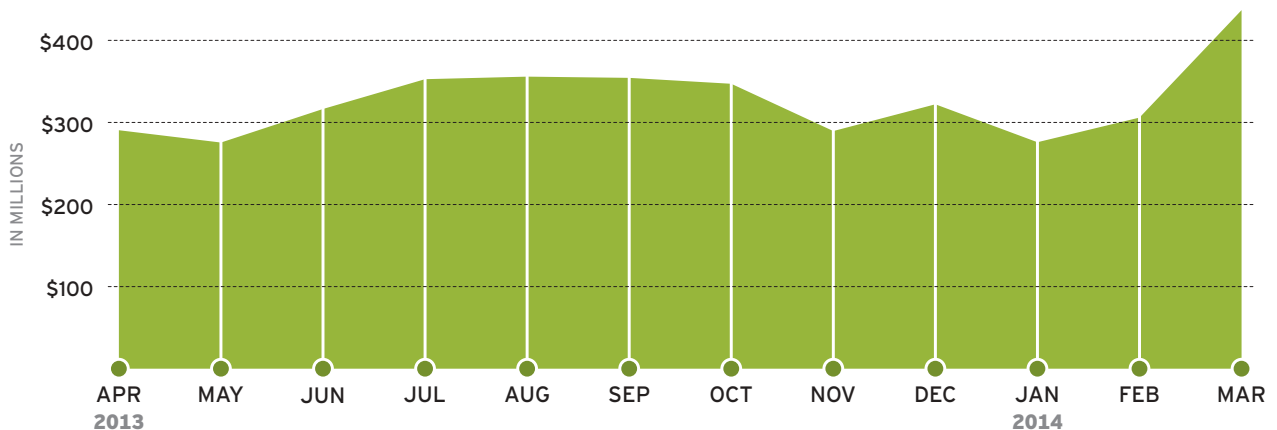
2014: Bad Air Days Ahead?

Air cargo is poised for stronger growth in 2014 after years of stagnation following the global financial crisis, reports the International Air Transport Association (IATA). The airline industry is on track to post its second consecutive year of improved figures, despite revising expected profits from \$19.7 billion to \$18.7 billion. Higher oil prices are expected to erode revenue.

“In general, the outlook is positive,” says Tony Tyler, director general and CEO of IATA. “The cyclical economic upturn is supporting a strong demand environment,

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which is compensating for the challenges of higher fuel costs related to geopolitical instability. Overall industry returns, however, remain at an unsatisfactory level, with a net profit margin of just 2.5 percent.”

While cargo is showing renewed strength (projected at four-percent growth in 2014), the industry is still challenged by poor infrastructure, restrictive regulations, and high taxes in different parts of the world. Moreover, the trend toward near-shoring will continue to have a negative impact on air freight as production locates closer to demand.

Here are some highlights of IATA’s report, by region:

■ **North America.** The efficiencies gained through consolidation, and the contribution of ancillary revenues on the passenger side, are driving a 2014 profit forecast of \$8.6 billion.

■ **Europe.** Despite optimism over the end of the Eurozone recession, and the winding down of austerity measures, major structural issues—such as the failure of the Single European Sky—remain. With a \$3.1-billion profit forecast for 2014, the European region also faces the greatest

exposure to the geopolitical conflict in the Ukraine.

■ **Asia-Pacific.** Airlines have the largest share of international air cargo. Turmoil in foreign exchange markets earlier in 2014, however, adversely affected growth prospects for large economies such as India and Indonesia. The resulting negative impact on passenger revenues more than offsets cargo improvements. IATA projects \$3.7-billion profit in Asia-Pacific for 2014.

■ **Middle East.** As revenues from high oil prices benefit home markets, and the region’s carriers continue to win market share in long-haul connections through Middle East hubs, IATA estimates a \$2.2-billion profit for 2014. Cargo, in particular, is experiencing strong growth as a result of tapping into newly emerging trade lanes between Africa and Asia.

■ **Latin America.** Poor economic performance in Argentina and Brazil, along with continued political and social unrest in Venezuela, are driving down profitability expectations to \$1 billion for 2014. An improved industry structure achieved through consolidation—within Brazil and across borders—and a closer matching of

capacity to demand are contributing to improvements over 2013 performance.

■ **Africa.** Network development by a handful of African airlines is leading growth. But profitability—forecast at \$100 million for 2014—is far from being evenly spread across the continent. While African governments are committed to achieving world-class safety levels by 2015, the continent suffers from lack of a holistic vision for developing connectivity across its vast distances. Poor regulation, high infrastructure costs, and an array of taxes and charges continue to hinder development.

Anchors Await

As if the ocean shipping industry needs another concern, global schedule reliability is trending downward, reaching an all-time low of 68.4 percent during the last period, suggests SeaIntel Maritime Analysis’ March 2014 *Global Liner Performance* report.

Hamburg Süd remains the most dependable carrier from a global perspective, with 84-percent performance reliability in February. Maersk Line at 79.5 percent ranked second, and CSAV ranked third at

Brazil Gets a Sugar Rush

When the 2013 U.S. Midwest drought severely impacted crop production—notably soybeans—Brazil was widely tapped to help fill the void. But record crops raised new concerns about whether the country’s producers have enough assets and adequate infrastructure to meet export demand. Despite cheaper labor, Brazil is challenged by poor hinterland connectivity, adding to total logistics costs.

But sugar is sweetening the outlook. Declining freight rates are helping Brazilian sugar exporters grow business in Asia and the Middle East—to the detriment of Thai producers, suggests a recent *Jakarta Globe* report. Despite a longer distance to market, global consumers prefer Brazil’s sugar quality. Cheaper transport costs, in turn, have tipped the scale in favor of

Brazil, which is the world’s largest sugar exporter.

Rates for larger Panamax size vessels were hurt by Chinese buyers defaulting on soybean cargoes from the United States and South America, according to the *Jakarta Globe*. An avian flu epidemic in China curtailed soybean and corn demand in the region, and soybean defaults increased the availability of vessels for hire.

Consequently, in March 2014, only 6,500 tons of Thai raw sugar was sold to China, one of the world’s leading raw sugar importers, compared with 290,000 tons from Brazil. As sugar stocks in Thailand continue to soar, producers are being forced to reduce prices in order to win back business.



Falling freight rates are a sweet deal for Brazil, the world’s top sugar exporter.

75.8 percent. At the other end of the scale, Zim, MSC, and NYK were the lowest-performing steamship lines among the Top 20, according to the SeaIntel report.

Performance declined significantly along all the major east-west trade lanes—Transpacific Eastbound, Asia to North Europe, Asia to the Mediterranean, and Transatlantic Eastbound. Europe to Africa was the one notable exception, demonstrating a seven-percent month-over-month improvement between January and February 2014.

“The continuous drop is now reaching a frustrating level for shippers,” says Alan Murphy, COO and partner at SeaIntel. “In February, shippers engaged in the Transpacific Eastbound and Asia-Mediterranean trade lanes had containers arriving on time less than 50 percent of the time.”

Remote Scanning Pilot Takes Off

Amsterdam's Schiphol Airport is giving new meaning to remote control. Authorities recently launched a security scanning system that allows Dutch Customs to view shipments scanned off-site at a freight forwarder's facility, then decide if selected shipments require further inspection.

Service provider Rhenus Logistics and Customs are currently piloting the system. Once fully operational, the remote scanning scheme—part of the airport's SmartGate Cargo project, a joint initiative among Customs, Amsterdam Airport Schiphol, Air Cargo Netherlands, and KLM Cargo—will speed the flow of freight, reduce the number of physical inspections, and enable Customs to use its resources more efficiently.



Schiphol Airport's new security system will cut down on physical inspections, and speed freight flow.



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Supply Chain Relationship Management

In a world where trucking capacity becomes constrained, relationships matter. Managing those relationships strategically versus tactically can make a huge difference in the viability and reliability of each company's supply chain.

The first ingredient to successful supply chain relationship management is having the ability to measure a supply chain partner's performance.

The next is possessing technology that assists with automating processes, thereby diminishing busy work.

The third is shared knowledge, for the purposes of openly measuring, managing, and valuing partners.

The fourth is the relationships themselves – which providers truly want to build long-lasting, beneficial relationships?

Understanding your supply chain partners' strengths is the area where you're likely to find mutual benefits. To determine strengths, have measurements in place to understand key performance indicators, like tenders offered, tenders accepted, on-time pickups, on-time deliveries, and any situations where an accepted tender is later rejected. Once those baseline measurements are in place, you may begin to explore mutual opportunities.

Opportunities often manifest themselves as situations where product needs to move, a transportation provider has capacity, and the added traffic will benefit their network. Once you begin to explore these opportunities with your supply chain partners, natural fits will become

apparent, that can lend themselves to better overall understanding of capacity levels and the establishment of commitments.

While commitments may not be optimal, they are necessary to ensure supply chain viability when capacity constraints begin to occur. Without solid relationships, joint commitments, and a good understanding of what each supply chain partner values, transportation providers have a tendency to gravitate toward higher-paying freight when capacity becomes constrained.

The way to ensure that your product is picked up and delivered on time is to leverage technology. Measure provider performance and use TMS tendering technology to eliminate personal preference, and foster the business relationship by openly discussing challenges and problems. A relationship based on these fundamental principles builds trust and creates the foundation of mutual success.

Using a TMS to complement your partner relationships can also bring other benefits to your organization; employees who once were consumed with the busy work of dispatch, are now freed to spend time doing more valuable tasks, including analyzing partner performance, working with carriers to compare notes on unexpected changes, and discussing expected flexing of a dynamic supply chain as demand patterns change.

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[REVERSE LOGISTICS]

BY CURTIS GREVE

Managing Director, Reverse Logistics and Sustainability Council
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Liquidate Inventory or Leave Money on the Table

Reverse logistics programs aim to efficiently remove returned and obsolete inventory from the primary sales channel to maximize recovery values while minimizing related financial risk. Retailers and manufacturers liquidate more than 95 percent of overstock inventory and customer returns on the secondary market.

When evaluating the effectiveness of their returns process, many executives focus on transportation and processing costs. While managing these expenses is important, the actual costs are low compared to the potential revenue companies can gain by maximizing their inventory's liquidation value.

For example, the cost of transporting and processing returns ranges from 30 cents to \$2 per item, depending on the product's volume, size, and type. Manufacturers and retailers can sell items on the secondary market for 15 to 50 percent of the product's value, depending on its characteristics, and whether it is sold to a bulk liquidator, pallet buyer, or directly to a consumer.

If a company dramatically improves its reverse logistics processes, it might reduce transportation and processing expenses by 10 percent. If the average value of returned items is \$20 per piece, the company saves three to 20 cents per unit processed.

If, however, the company focuses on

increasing liquidated items' recovery value by 10 percent, it could increase profits by 30 cents to \$1 per unit. A company liquidating three million returned units per year that focuses on reducing processing costs adds \$600,000 to its bottom line—at best. But if it improves its liquidation recovery rate by 10 percent, it increases its bottom line by \$900,000 to \$6 million.

Yet because they do not fully understand liquidation's potential, many companies leave this money on the table.

The Secondary Market

Liquidators buy and sell goods from retailers and manufacturers into specialized markets comprising three types of buyers: bulk, pallet, and item.

Bulk buyers maintain broad, well-developed buyer lists, and can purchase millions of dollars of goods weekly, in multiple truckloads they sell primarily to smaller pallet buyers. The pallet buyers have limited funds, sometimes require terms when buying, and sell

their product via eBay, Craigslist, local flea markets, or small salvage shops.

Companies can liquidate product following three basic financial models:

1. Consignment. Liquidators charge about 10 percent of gross revenue for products they sell on the manufacturer's or retailer's behalf. The seller maintains the title until the buyer pays for the item, and can maximize recovery value by taking advantage of seasonal demand peaks.

2. Revenue share. Also known as gain-sharing, this model allows sellers to set a floor on the percentage recovery rate, minimizing market risks, and providing an upside if the market demand is great.

For example, the liquidator agrees to pay 12 percent upfront, plus 50 percent of any recovery exceeding 12 percent. Some liquidators negotiate a gap between the floor amount and when the gain share starts. The split on the gain share is typically 50/50, but some liquidators push for more.

3. Purchase. When the liquidator purchases goods outright from the seller, the recovery value may be significantly lower—but so is the seller's risk. In exchange for paying immediately, however, liquidators want a reduced price to minimize potential impact on their profits. ■

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BY **RON CAIN**

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5 Steps to Revolutionize Your Corporate Culture

Successful business leaders understand that a company's culture is just as important to the bottom line as tools and technology. But workplace culture involves more than a company T-shirt and zone cleanup competitions. In strong companies, it is a highly structured and repeatedly measured discipline.

Company culture is a sustainable platform for long-term performance, encompassing everything from operational protocol to career development. When employees see that their career development is a priority, they feel a sense of ownership, leading to higher job satisfaction.

This results in fewer on-the-job injuries, improved service quality, and higher employee retention levels. Employee retention impacts not only time spent training, but also improved performance—both of which reduce costs and benefit partners across the supply chain.

Culture is a structured system companies can purposefully implement and analytically evaluate through the following five steps:

1. Define core values. The beliefs fundamental to your company's mission set the professional tone and general attitudes for how employees make decisions and behave. If you do not take the time to define meaningful

core values, mediocrity and laziness may take their place.

2. Align core values. Implement core values across all levels of your company, from the top down. Leadership communications and actions that exhibit and reinforce behaviors consistent with the company's core values affect workplace attitude, work ethic, and daily routine, ultimately resulting in higher productivity and increased job satisfaction. Values-based culture drives performance.

3. Reinforce core values. Reinforcing core values extends outside the organization to potential clients, partners, and vendors. It is important to choose an outsourcing partner or client whose values align with your own and who can integrate easily from a culture standpoint. This improves communication, cooperation, and efficiency, and results in enhanced performance and reduced costs.

4. Measure the integration. The key to a meaningful and effective company

culture is specific and measurable behaviors. Perform a Cultural Assessment to measure how well your company integrates core values into cultural variables.

A Cultural Assessment measures how a facility's culture relates to operational performance, revealing opportunities for improving efficiency and increasing cost savings. Your facility may be able to more effectively engage employees through a regularly scheduled assessment.

5. Build action plans. Performing regular assessments across the organization at all levels allows you to develop and implement effective action plans that include clearly defined expectations, attitudes, accountability, and metrics.

Meet regularly with leadership and teams to communicate issues and track performance by measurable behaviors to plan and prove value. Then build action plans and performance programs around these behaviors. Taking definitive action reinforces your commitment to your values, and cultivates a performance-driven culture. Increased performance equals cost savings.

The success of your bottom line depends on your commitment to implementing and maintaining a strong company culture. ■

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BY KELVIN WONG

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Managing Complex Supply Chains In Emerging Asia

Capitalizing on Asia's emerging markets requires the ability to effectively manage the complex supply chain challenges that the region presents. Often the first step to turning economic potential into actual growth is creating a strong and secure logistics hub.

Global businesses commonly centralize their logistics and supply chain management functions in a stable, secure location that offers access to a broader region. For many corporations looking to establish a presence in Asia, Singapore is an attractive supply chain management hub because of its extensive connectivity, innovation ecosystem, and the availability of consultancies and other supply chain support services.

Companies located in Singapore also benefit from a government that knows the importance of the logistics sector. Singapore has committed \$33.2 million to a five-year roadmap designed to help the sector transition toward productivity-driven long-term growth.

Many companies grasp the need to tailor their supply chains to individual Asian markets, but still desire to gain advantages by coordinating operations throughout the region. This often leads them to establish operational and technical hubs—control towers that oversee their network of supply chains in Asia.

This shift toward a centralized supply chain management hub is popular with technology and industrial businesses. Iconic consumer companies, such as Nike and Unilever, also use such hubs to reach global markets from a centralized location. Nike established its global trading hub in Singapore to leverage the country's finance and logistics strengths to undertake centralized global product sourcing, logistics, and brand protection. Unilever centralized its logistics leadership for Asia in Singapore to manage end-to-end supply chain functions, allowing the company to cut costs and shrink its carbon footprint.

Drawing a Crowd

A robust ecosystem of supply chain management experts and consultants supports these control towers. One way companies are aggregating their Asia-related expertise is by establishing centers of excellence that build solutions tailored for specific industry verticals. For example, global third-party logistics

provider DB Schenker set up its first global solution and competence center for electronics and industrial sectors in Singapore to develop and implement logistics solutions worldwide.

Such partnerships require careful planning and government commitment to create an ecosystem that attracts businesses across industries. In the logistics space, developing this ecosystem has required the Singapore government to invest in facilities that attract international logistics companies. Among the most significant investment is the consolidation of Singapore's port facilities into a mega-port currently under construction at the Tuas industrial zone. The port is a long-term investment in Singapore's ability to host large-scale supply chain management operations, and is expected to begin operating its first berths by 2024.

Companies with experience operating in emerging markets understand that the potential for growth is tempered by the challenges these markets inherently pose. Singapore offers an ecosystem where global companies with complex logistics needs can manage their supply chains throughout the region. Singapore is well-positioned to help global companies realize success in one of the world's most dynamic regions. ■

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REFRESHING YOUR LOGISTICS NETWORK | 6 STEPS TO SUCCESS

Follow this
hands-on guide to
ensure a headache-
free logistics network
optimization project.

BY
MERRILL
DOUGLAS

Even the most well-designed logistics network starts to show its age over time. At some point, you'll want to hit the refresh key, and take a new look at where you operate warehouses and distribution centers, what inventory you keep in each facility, and how you move goods from place to place.

The time to optimize your network might arrive after a merger, or when your company enjoys a growth spurt, or when you're simply looking for greater efficiency.

"The aim is always to minimize cost, but also to meet some service objectives," says Paul Huppertz, a partner with The Progress Group, an Atlanta-based supply chain consultancy.

Ready to refresh your logistics network? Here are six steps to minimize costs and maximize efficiency.



1 STATE YOUR GOALS

Whether you want to make a few nips and tucks, or totally rejuvenate your logistics networks, start with a plan. The first step in an optimization project is defining your goals.

Your goal might be to increase the company's revenues or profits by a certain percentage. It might be to expand into new geographies, or to consolidate two networks after an acquisition. "Regardless of the aim, define the business objectives and what the future state should look like," Huppertz says.

A company might be trying to decide where to add capacity or capabilities. "Or it might want to optimize its manufacturing footprint—trying to determine where to locate production plants," says Toby Brzoznowski, co-founder and executive vice president, sales and marketing at Llamasoft, a supply chain design software vendor in Ann Arbor, Mich.

One global pharmaceutical company, a client of business services firm Genpact, faced problems because its operations and suppliers were all located in one region. That strategy made sense when the company started out, but not when it began serving markets across a broader geography.

"As the company continued growing, it realized that it needed to improve its network infrastructure," says Sudhanshu Singh, vice president, manufacturing analytics at New York-based Genpact. The pharma firm launched an optimization project to gain better control over transportation costs.



2 ASSEMBLE THE DATA

Once a company defines its objectives, it's time to start painting a picture of the network as it stands today. That calls for a concerted data collection effort.

For Kansas City-based transportation consultancy TranSystems and its clients, this work focuses on three kinds of data: current inbound freight costs, current delivery costs, and a sizing analysis of the distribution centers.

It's especially important to understand DC capacity if eliminating some facilities is a goal. "Expanding a remaining facility might be an option," suggests Richard Schieler, senior vice president, TranSystems.

The most common approach is to collect data on all transactions over a period—say, for the past 12 months. "Then bring the data into a model that identifies the supply chain's structure—where facilities are located, including suppliers, manufacturing, distribution, and customers; and what volumes, demand, and products flow through that structure," says Brzoznowski.

The model also incorporates data that represents the company's sourcing, transportation, and inventory policies—for example, who sources products and when, what transportation modes the company uses, what constraints apply to deliveries, and where the company keeps inventory and in what quantities.

"Once a company validates that the model matches the current state of the supply chain, it can use that model as a springboard to test out strategies and scenarios," Brzoznowski says.

While capturing data to represent the current state, it's also important to account for upcoming changes. For example, a company might be gaining or losing a significant number of customers, or it might be getting ready to add a manufacturing site, explains Michael Kukiela, vice president and general manager, supply chain management and shared services for Green Bay-based transportation provider Schneider.



3 CLEAN UP THE DATA

Along with data collection comes quality control—eliminating misspellings, geographic errors, redundancies, and other mistakes that drive a wedge between the data and the truth.

Logistics managers are sometimes surprised to learn that data cleanup is the lengthiest part of the optimization process, notes Mark Wagner, vice president of engineering and consulting at GENCO, a Pittsburgh-based third-party logistics (3PL) provider offering network design and optimization.

But quality control is a crucial step. Consider a summary of inbound shipments showing that one supplier accounted for 1,000 moves, with a particular total weight and cost.

"If that data isn't clean, a second entry 20 lines down might be the same supplier, but spelled differently, showing another 500 shipments," Wagner says. Cleanup makes all the data consistent, so that each line in the summary represents a unique item.

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4 CREATE SCENARIOS

After compiling an accurate picture of the current network, it is time to propose and test some alternatives. What would happen to costs and service levels if you add a new distribution center in South Carolina, put a crossdock on the West Coast, use a 3PL to handle distribution in Europe, start sourcing a key component from Mexico, or store all

slower-moving inventory in a central location?

“Whittle the list down to a reasonable set of scenarios that illustrates the tradeoffs between cost and service,” Huppertz recommends. “If enhancing service is the goal, then it’s important to show the costs for those incremental levels of improved service.” For instance, cutting delivery times from three days to one probably means adding locations and incurring new costs.

Choosing scenarios to model is largely a matter of setting priorities. “For each optimization study, it is imperative to identify the key variables that will drive the decision, and

MORGAN DRIVES INBOUND OPTIMIZATION

As a major manufacturer of custom bodies for straight trucks and vans, Morgan Corporation prides itself on getting customers exactly what they need, when they need it. “We continuously task ourselves with being flexible and reactive,” says Doug Sowatsky, corporate logistics manager for the Morgan, Pa.-based company.

At the same time, Morgan strives to hold down costs and send plants exactly the inventory they need to fill current orders.

Morgan controls most of the transportation from domestic and overseas suppliers, sending components to 10 U.S. plants and one in Canada. In 2013, it worked with Pittsburgh-based third-party logistics provider GENCO to optimize that inbound network.

Some suppliers move components directly to Morgan’s plants. Others ship to Morgan-owned pooling facilities, where smaller loads are combined and delivered to plants in weekly shipments.

Morgan launched the

optimization project to tighten its inbound network, putting more product on trucks, and reducing and shortening moves. “We also hoped to cut transit times,” Sowatsky says.

Pulling the Data

After the logistics team discussed those goals with GENCO consultants, the two companies started collecting data on Morgan’s current operations. They pulled five kinds of information, including two kinds of shipment data, a fuel surcharge schedule, and data on international freight, says Mark Wagner, GENCO’s vice president of engineering.

A major manufacturer of dry freight and refrigerated truck bodies, Morgan Corp. worked with a 3PL to optimize its inbound transportation network.



That effort wasn’t difficult. “We use a 3PL to manage our domestic transportation, so we had access to data about every shipment we made,” says Sowatsky. But Morgan did need to clean up misspellings and inconsistencies. It also had to hunt up data from the few suppliers who manage their own shipments to Morgan.

Having assembled the information, GENCO started modeling a series of scenarios: “Does it make sense to have a Midwest crossdock? A West Coast crossdock? Should we go direct?” Sowatsky says.

The exercise revealed opportunities to consolidate

small less-than-truckload (LTL) shipments into larger ones, and combine LTL shipments into multi-stop truckloads. The models also suggested that Morgan could manage imports more efficiently by choosing different U.S. ports to receive goods from overseas.

When Morgan was ready to implement the best suggestions, it split the work with its 3PL. For instance, if Morgan wanted to build multi-stop truckload shipments from suppliers in California, it had to work with those suppliers to synchronize their shipping days.

“While the 3PL was working to identify, capture, and execute changes, we were working on adding stability and repeatability to what our suppliers were doing,” Sowatsky says.

It’s too soon to measure the full impact of the optimization project, but benefits are starting to materialize. “Optimization doesn’t happen overnight,” Sowatsky says. “You have to take one step at a time.”

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focus the optimization on those variables,” says Kukiela. For one Schneider client, a Fortune 100 manufacturer that wanted to consolidate six independent supply chains following an acquisition, key variables included the number, size, and location of its DCs, and the product mix for each facility.

One big challenge in modeling is having to include data about activities you haven’t done before. You might decide to source from new suppliers, for example, use different transportation lanes, or add a plant or DC. What costs, lead times, and other factors will come into play?

“Companies have to make assumptions, or use benchmark data when it’s available,” Brzoznowski says.

Conversations with service partners can help fill in some of those blanks. In the case of Genpact’s pharmaceutical client, for example, carriers, 3PLs, customers, and in-house employees made important contributions. “You need input from these players, not just to support information gathering, but also to help understand operational constraints,” says Singh.



5 RUN THE MODELS

With the test scenarios defined, the next step is to crunch the numbers. That requires modeling software. Schneider maintains a large variety of tools, allowing it to tailor its approach to each project. “These tools range from proprietary, custom-built mathematical optimization systems to off-the-shelf software packages, and, in some cases, a combination,” says Kukiela.

If the models are simple, the modeling tool might be simple as well. “We can easily build a calculator in a spreadsheet if we are only looking at a few scenarios,” says Huppertz.

For a given scenario, a company might run the calculations several times to account for uncertainty about some assumptions. What will happen, for instance, if the company expects to see weekly revenues of \$10 million, but actually sees \$25 million? “Once you build a model’s base, it’s easy to do what-ifs,” Schieler notes.

Running what-ifs can help you understand how much stock to put in a suggestion that emerges from the model. If one assumption turns out to be wrong, how will that affect the recommended solution?

“If you’re off by five percent in either direction, and the answer changes completely—suddenly the model tells you to source from Mexico instead of China—how confident are you?” asks Brzoznowski.



6 MAKE IT HAPPEN

The end product of the modeling exercise is a set of recommendations for improving the network. A company might try

to implement all the changes at once, or it might opt to move more slowly. “We recommend a gradual rollout,” says Kukiela.

Before Genpact’s pharmaceutical client started to implement any recommendations, it worked with the consultant to analyze the feasibility of those changes. “During these discussions, we suggested a preparation strategy and phased rollout plan,” says Singh. “Then we initiated the pilot.”

EXPERT ADVICE

Whatever goals spur you to take a new look at your network, it’s important to approach the project with a clear vision. “Spend significant time setting scope and objectives,” advises Kukiela. “Review this vision with your team, and the company’s leadership, so everyone knows the outcome and objectives.”

Be careful, too, about how you define the scenarios you want to model. If you spell them out in great detail, you’re more likely to collect all the data you need the first time around. “Carefully defining the scenarios saves time, and requires less circling back,” Huppertz says.

Avoid putting too much stock in pre-conceived notions about how best to optimize the network. Instead, focus on providing the model with high-quality data, then let the right solution emerge. “The better the data, the better the answer,” says Schieler.

One key to getting good data is making sure the optimization project has a sponsor with authority to keep things rolling. A senior project manager might not be able to compel the chief information officer to drop other work to round up data when it’s needed. “But the CEO might say, ‘Yes, you do have time to get that information,’” says Schieler.

If you’re working with a consultant, don’t just hand over the project and walk away; take an active role. “The people who ask questions and communicate regularly win, because we figure out together how to add value,” says Wagner.

After the modeling software does its work, and you evaluate solutions, consider all the impacts that a change might create. “What’s best for the company may not be best for every employee and what they’re incented for,” says Brzoznowski.

For instance, a plan to spend more on transportation in order to cut inventory might produce a net gain for the company. But to a transportation team that wins bonuses when costs decrease, this will look like a bad deal. “Realign, then



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reassess how employees are measured,” Brzoznowski says.

One mistake that’s easy to make during optimization is creating a process that is not sustainable over time. “Once a network is designed, you cannot leave it unattended,” notes Singh. “Develop your network in a way that allows for minor tweaks to help it evolve with market and sourcing changes, new policies, and other factors.” And you need to prepare for bigger changes in the future. One certainty about

optimization is that it’s not a one-time process.

How often should a company revisit its network design? That depends on the rate and pace of change in that specific business and its industry. “A good rule of thumb is to plan a review every three years,” suggests Kukiela.

No matter what the market throws your way, refreshing your network design periodically guarantees you’ll always have a logistics network optimized to meet your needs. ■

GLAZER’S REFRESHES OHIO NETWORK

Thanks to an optimization project it launched in 2012, Glazer’s—a major distributor of wine, beer, and spirits—recently moved to a new distribution center in Cleveland. Compared with the old facility there, the new building is better positioned to handle the company’s current and future shipment volumes in northern Ohio.

As a wholesale distributor of alcoholic beverages, Glazer’s buys from suppliers and sells to retailers, including liquor stores, bars, restaurants, and other licensed venues. Because each U.S. state has a unique set of liquor laws, a distributor maintains a separate operation in every state where it sells.

In Ohio, Glazer’s logistics network includes two DCs, in Cleveland and Columbus. The company also operates crossdock facilities in Cincinnati, Dayton, and Toledo.

Glazer’s decided to explore possible changes in Ohio mainly because the Cleveland DC was low on space.

“If we run at anything higher than 85 percent of capacity in our facilities, we start to get

worried,” says Eric Lis, regional vice president of operations at Glazer’s. “Capacity was much higher than that in the Cleveland operation.”

A DC with so little room to spare causes several problems, says Lis, who oversees Glazer’s operations in Indiana, Ohio, Kentucky, and Illinois. It increases the risk of breakage, and it adds labor, forcing workers to shift pallets around to get at other pallets.

Hello Columbus

Crowding in Cleveland also forced Glazer’s to temporarily serve its Toledo crossdock out of Columbus, even though that doesn’t make sense geographically. “Columbus had the necessary pick-pack and warehouse capacity that Cleveland did not,” Lis says.

Because the Cleveland DC couldn’t store all the product its market required, some of that inventory moved from suppliers to Columbus. When Cleveland was ready to take that product, Glazer’s did an intracompany transfer.

“We were adding extra touches, additional labor, and more freight,” Lis says. “So

one goal was to reduce intracompany transfers by 50 percent.”

Lost in Translation

Glazer’s worked with its consultant, The Progress Group, to collect data from its operating systems and build a picture of current operations. It took a fair amount of work to translate the distributor’s data into terms that The Progress Group could use in its models.

“Like any company, we got caught up in our own acronyms,” Lis says. “We had to break down the information for The Progress Group to understand.”

Before creating new scenarios to test, Glazer’s collected data it could use to project future demand, including demographics and current market share in each location. Lis and his team also projected how demand and market share might grow in the future. That task was complicated by Ohio’s franchise system for alcoholic beverages, which gives distributors exclusive rights to sell certain brands in certain markets.

With all the data in place, The Progress Group started running different scenarios through its modeling tools.

“For example, one scenario asked what would happen if we centralized operations out of one megaplant in Columbus,” Lis says. (The model showed that this scenario was possible, but not cost-effective.) “Then we looked at expanding the Cleveland facility, with the goal of gaining more capacity.

“We also looked at investing in an automated picking system, to increase capacity for the future,” he adds.

Setting Up Shop

Rather than expand the existing Cleveland DC because it didn’t offer the right setup for new automation, Glazer’s decided to shop for a new, larger building. That facility was scheduled to go live on May 5, 2014, and to start shipping orders to Toledo in June.

The optimization project will start to yield benefits quickly. “As soon as we open that new building, we will reduce the number of intracompany moves,” Lis says.



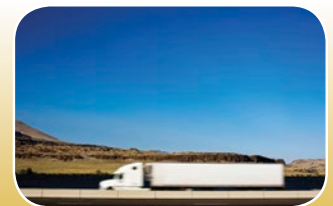
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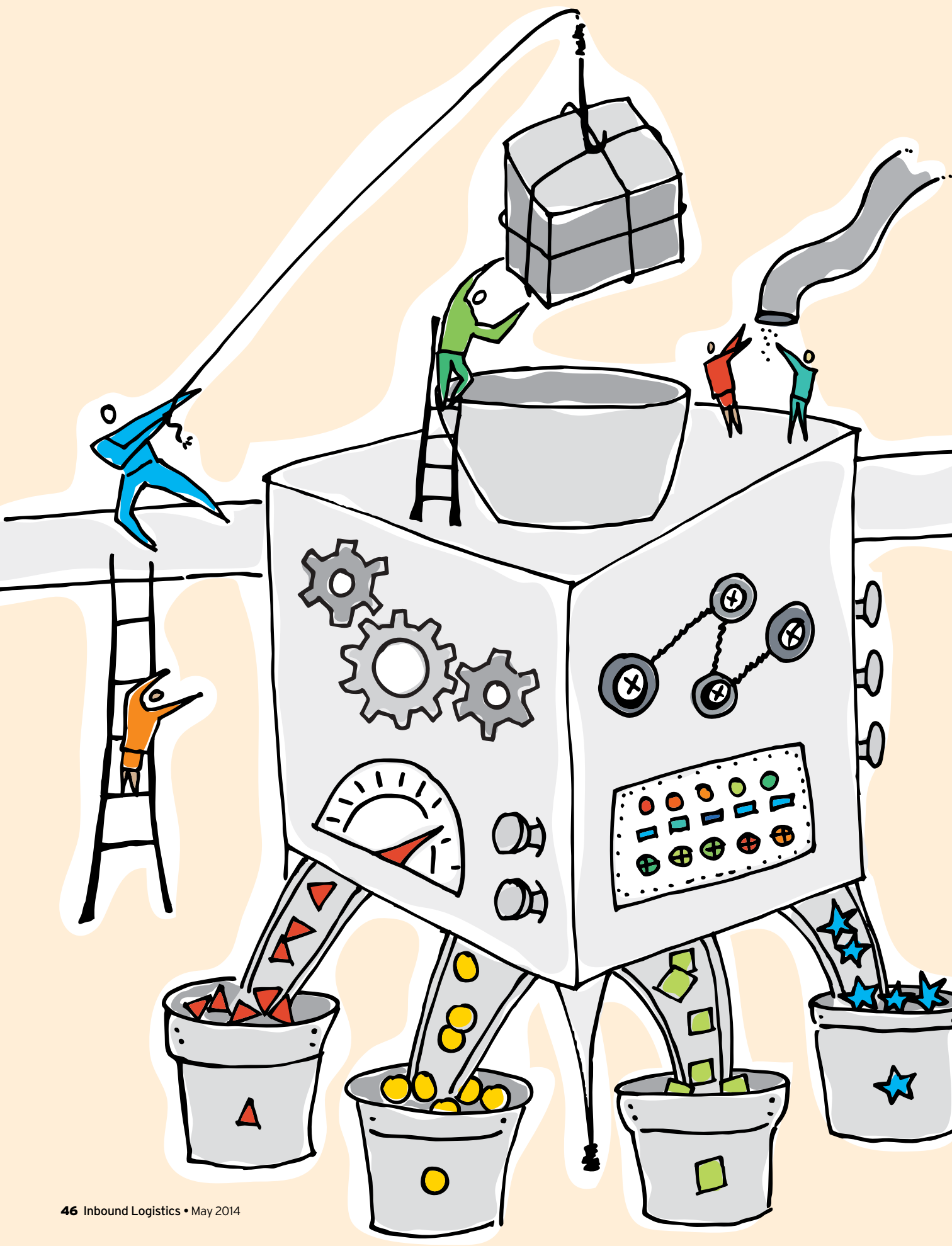
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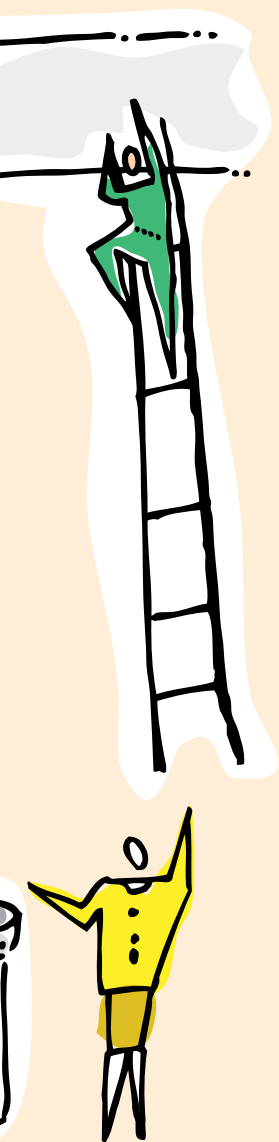
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MATERIALS HANDLING EQUIPMENT

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From conveyors to stackers to shuttles, choosing the right automation can convert your warehouse into a sleek machine.

by Suzanne Heyn

New warehousing and distribution facilities bring new opportunities—some of them alluring, others potential pitfalls. Companies hoping to cut labor costs and boost efficiency initiate months of planning, analyzing, and working to build a new facility that will support business growth. The decisions involved are not simple—they’re complex, multi-million-dollar choices with big implications.

Each decision throughout the process—whether choosing the right materials handling solutions provider or selecting the best equipment—must be founded on data and diligence. The best choices emerge from a collaborative team effort, made while searching for balance among divergent factors.

With such uncertainty, companies could easily retreat into comfort zones, recreating previous facilities instead of investigating new options. “That would be a mistake,” cautions Lance Anderson, director of sales, sortation, and distribution for Beumer Group, an international solutions provider with U.S. headquarters in Somerset, N.J. Companies that examine—and improve—existing

processes when planning new facilities can reap the reward of inching closer to fulfilling that elusive perfect order.

The underlying process must be solid for materials handling equipment to enhance it. “Trying to support an inefficient process with automation rarely works,” says Mitchell Weiss, chief operating officer of Seegrid, a Pittsburgh-based technology provider.

FINDING THE RIGHT MATCH

Selecting the right solutions provider marks a critical step in the process, says Dan Graves, corporate facilities, production support, and engineering manager for Quad Graphics, a Sussex, Wis.-based commercial printing company. Graves—who has overseen many of the company’s 70 new facility openings since it formed in 1971—typically starts with a long list of possible partners, then narrows the field.

“The solutions partners we consider must have a solid track record,” Graves says. “We gather input from companies that have used the provider’s technology.”

Reference checks can help ensure

a potential partner focuses on building a solid, data-based system, and does not attempt to sell unnecessary or overly sophisticated equipment.

Choosing the right materials handling solution requires looking at a facility holistically, as opposed to considering its individual parts. Data forms the foundation of the process.

The first information a consultant or solutions provider asks for is statistics detailing throughput, order volume, planned inventory levels, and business growth projections. Other considerations include the range of product sizes and stockkeeping unit (SKU) profiles.

While some companies are able to offer all the necessary data already refined, others supply raw numbers that a provider can then crunch to begin the process of evaluating systems.

Companies building their first facilities may not have such robust data, so the project team will make assumptions about the number of orders per day and the size of those orders, making sure to leave a margin of error.

While data is key, companies should avoid “living in the land of averages,” says Luther Webb, director of operations and solutions consulting for Intelligrated, a Mason, Ohio-based solutions provider. “A company’s average order may be two lines per order—but that can mean 90 percent of orders are singles, and the other 10 percent represent a larger part of the order line. It is important to dive into the details so the materials handling equipment selected can handle the facility’s real output.”

ONLY WHAT IS NEEDED

Sometimes, the allure of advanced technology hypnotizes companies into making bad decisions. Consider increasingly popular shuttle technologies, which are most suitable for companies processing a high volume of orders. It would be wasteful for a facility managing low volumes to invest in the latest shuttle technology, however, because the operation would be unable to make full use of the system’s capabilities.

“Don’t fall in love with the technology’s novelty,” says Ed Romaine, vice president

continues on page 52



Matching automation system capabilities to your warehouse's unique needs is crucial. Automated storage and retrieval systems can deliver multiple transactions per minute, and handle loads weighing thousands of pounds. For low-volume operations shipping small items, however, investing in these solutions would be overkill.

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iHerb Grows a More Efficient DC

In the grand scheme of determining automation levels, labor costs represent a significant driver. This was the case for iHerb, a Moreno Valley, Calif.-based e-commerce retailer of natural products including supplements, beauty supplies, and groceries.

When the company built its second facility in Hebron, Ky., to more easily reach its East Coast and international customers, it completely reimagined its order processing in an effort to reduce labor costs and increase speed. It also adopted a significantly more sophisticated system to accomplish those goals.

iHerb's original California facility employs batch processing. As orders come in, they are grouped together by a warehouse management system (WMS), which calculates the number of each product needed for every batch.

needed a system capable of handling the velocity. Most of the company's orders contain just a few items, but those items could include any one of the company's 35,000 products. That means workers must be able to access the full range of items.

Shuttle Service

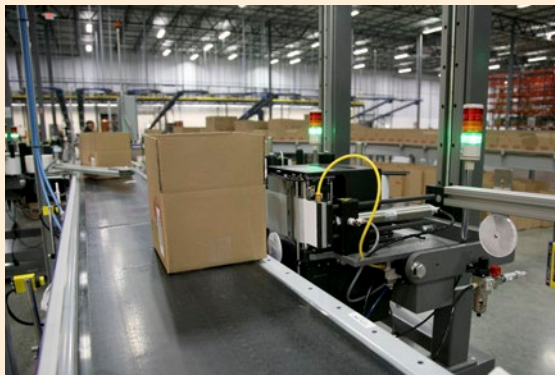
Ultimately, iHerb opted for a highly automated, goods-to-person, discrete order-picking system featuring shuttle technology. "This equipment allows workers to handle orders sequentially, one at a time," says Troy VanWormer, iHerb's director of operations. "One advantage is we can prioritize orders after they're in the pool." In the old system, prioritizing orders wasn't possible—each one would line up behind the other in the order received.

The opportunity to reduce labor costs drove the decision. "The Kentucky facility operates with about half the labor of the California DC," VanWormer notes.

Order processing times also dropped by 10 percent, allowing for 15-minute fulfillment times. The new system requires more effort to replenish, however, making a true cross-comparison difficult.

Inside iHerb's new distribution center, floor-to-ceiling aisles contain totes holding products in compartments. A warehouse control system processes orders and directs robotic shuttles as they maneuver inside the aisles, picking totes and delivering them to one of 20 picking stations, where employees select the correct product based on an on-screen image.

The new facility processes up to 40,000 orders daily. While iHerb needed a high-volume solution, companies with lower volumes wouldn't necessarily benefit from such a sophisticated solution. Processing orders at such a high speed could create bottlenecks downstream if other areas of the facility aren't equipped to keep pace.

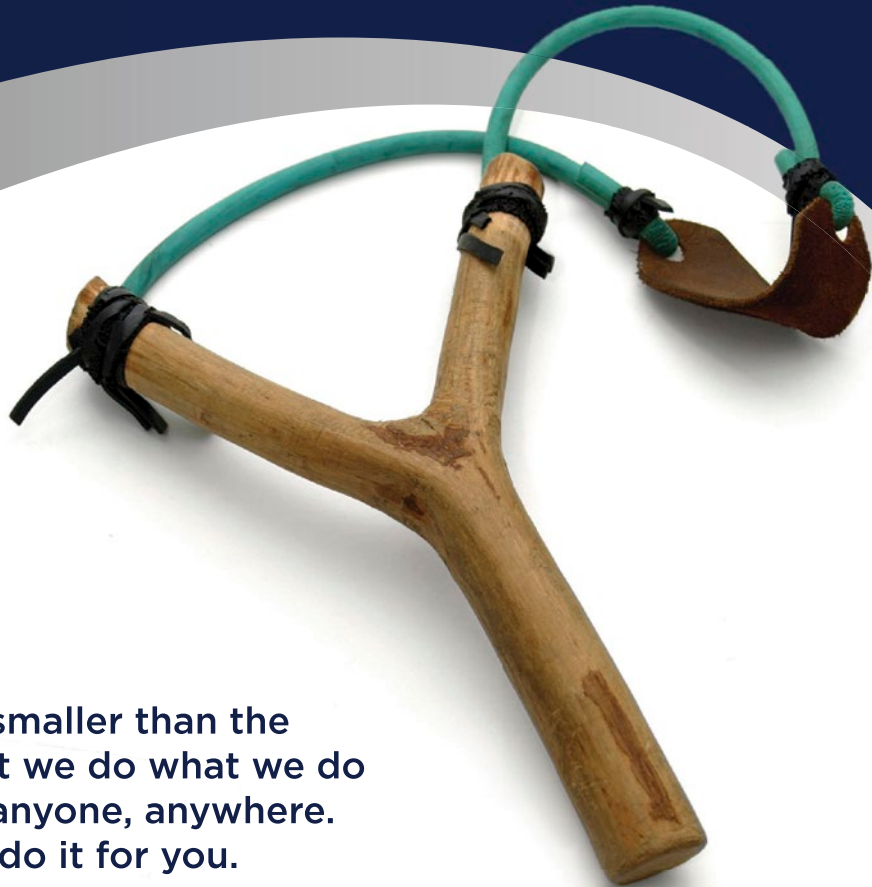


Implementing a sophisticated order-picking system featuring shuttle technology allows natural products company iHerb to staff its new facility with half the labor required in its existing warehouse.

A voice-picking system then communicates to employees through headsets, directing them to the right location to pick products. The system worked well, but was labor-intensive, and slower than iHerb wanted.

To equip the new facility, which opened in summer 2013, iHerb worked with Bastian Solutions, an Indianapolis-based solutions provider. iHerb runs a high volume of orders, and

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continued from page 48

of marketing for Integrated Systems Design, a Wixom, Mich.-based solutions provider. “Compare it to other technologies to ensure you’re getting the most bang for your buck.”

Data also supports the next phase of planning, which involves discussions about a company’s overall goals and those tied to the new facility, such as increasing order-processing times or accuracy. Companies often design facilities in the order that products flow from receiving to processing to shipping.

Instead, Anderson recommends working backward, starting with the company’s description of the perfect order. “The definition of that term varies,” he says, although factors may include cost per piece, accuracy, or the time it takes to fill the order.

Working backward reverses the traditional process, forcing companies outside their comfort zones—but ultimately resulting in a better solution. Everyone involved in the project can benefit from looking at the facility with fresh eyes.

PROCEED WITH CAUTION

A company’s business model and growth projections will drive materials handling equipment decisions, but an increasingly volatile business landscape has shrunk planning horizons. Order sizes have dropped, while expectations regarding speed have skyrocketed.

“The supply chain world is filled with uncertainty,” says Kelly Reed, executive vice president, materials handling integration, for Tompkins International, a Raleigh, N.C.-based supply chain consulting firm. “A 10-year plan horizon is almost unheard of.”

Because most companies also have capital restraints, Reed recommends building out what’s needed for the next two to three years while reserving funds for future upgrades.

Changing market conditions have also led companies to include multiple systems in their facilities. Companies sometimes install different types of carousels, pick modules, and conveyors inside the same facility to accommodate different flows.

“The specific equipment is driven by

By homing in on the data, and focusing on the perfect order, companies can make wise decisions about materials handling automation.

the facility’s volumes and product characteristics,” Reed says. This is particularly true for businesses combining brick-and-mortar with e-commerce. They may need to accommodate small and large orders, along with value-added services such as embroidery or gift wrapping.

When choosing materials handling equipment for a new distribution center, an additional consideration is balancing the need for peak versus average performance. If a company builds for peak times, it will waste equipment and space during slower periods. “It’s better just to flex the staff,” Reed says. “It’s easy to bring in additional labor.”

Weiss agrees, citing the example of a candy company. “The week before Easter, the company produces at high levels, and may run an extra shift,” he explains. After the holiday passes, production slows.

“If the company invested in extra machinery, it sits idle,” Weiss adds. “But if they brought in extra workers to manage the volume, they can adjust labor levels.”

Companies with higher labor costs often make a better business case for expensive, automated solutions. “The more costly your labor, the more you can spend on technology that will help reduce those costs,” notes Mike Clemens, senior engineering consultant with Indianapolis-based automation provider Bastian Solutions.

Although ever-shrinking planning horizons make long-term projections difficult, Webb says companies could invest in an experiment—say, try out shuttle technologies in a small section of the facility and see how it works. In a few years, conditions might change for the solution to be

more financially viable, and the company would already have the data and experience to gauge the merit of expanding. This approach allows companies to balance short-term planning horizons with preparing for long-term evolution.

One way to evaluate materials handling solutions involves comparing total cost of ownership with labor expenses. Webb cites the example of an online apparel retailer that was debating between put walls—a manual solution involving a wall of shelves and containers to hold product—or a more automated tilt-tray and cross-belt sorter system, which features conveyor belts flowing product throughout the facility.

The company ultimately selected the automated solution to reduce labor costs and escape batch size limits associated with put walls.

POSSIBLE PITFALLS

Two main pitfalls exist in materials handling technology decision-making. The first is under-automating — fearing the capital expenditure and not taking advantage of the range of available solutions. The second involves over-automating — choosing a particular piece of machinery and forcing it to work in a solution. By homing in on the data, and focusing on the perfect order, companies can make wise decisions about materials handling automation.

While it is important to invest sufficient time in planning a new DC’s equipment, beware the endless decision-making that plagues many warehouse automation projects. “The longer a company spends stuck in the planning process, the more it wastes the design team’s time and energy,” Clemens says. After all the teams reach consensus about the right equipment, the time is ripe for action.

Planning a new facility is the best-case scenario for many companies. “A green-field gives you a clean slate, which is exciting, opportunistic, and dangerous all at once,” Anderson says.

By focusing on building the best system—and not simply picking a fancy piece of equipment and constructing around it—a company’s decisions set the foundation for success. ■

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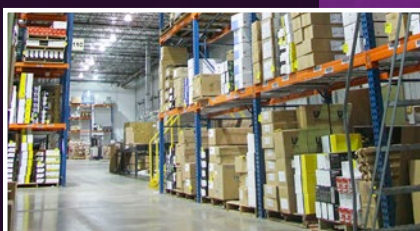
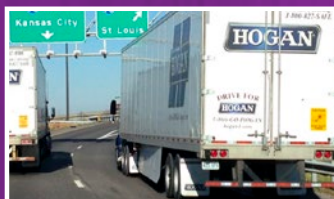
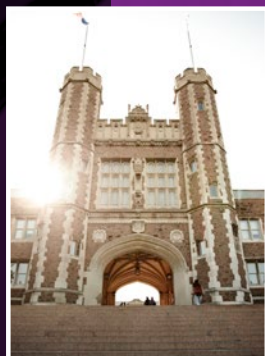
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Today, that same independent, yet cooperative vision can be found throughout the region surrounding St. Louis. Encompassing parts of Missouri and Illinois, the area has become a logistics hub. Call it the new Spirit of St. Louis.

Representing a broad community of business leaders united for economic prosperity throughout the entire St. Louis bi-state region, the St. Louis Regional Chamber is dedicated to making the area one of the top 10 most prosperous regions in the United States. And it has a lot of tools to work with, including a transportation and logistics infrastructure that is second to none.

“The St. Louis region has long been recognized as the key to the heartland, a leading center for trade and distribution,” says Louis Copilevitz, director of logistics and advanced manufacturing for the St. Louis Regional Chamber. “The region’s multimodal transportation network is globally connected. St. Louis offers unobstructed access to roads, water, rail, air, and pipeline – in all directions – positioning the region as a booming epicenter of commerce.”

Four relatively uncongested interstate highways connect the St. Louis area to locations north, south, east, and west. Trucks leaving the St. Louis area can reach

70 percent of the U.S. population within 48 hours.

The region offers access to the third-largest rail terminal in the United States, linking six Class I railroads with more than 4,000 miles of track. St. Louis is also home to the nation’s second-largest inland port, the Port of Metropolitan St. Louis.

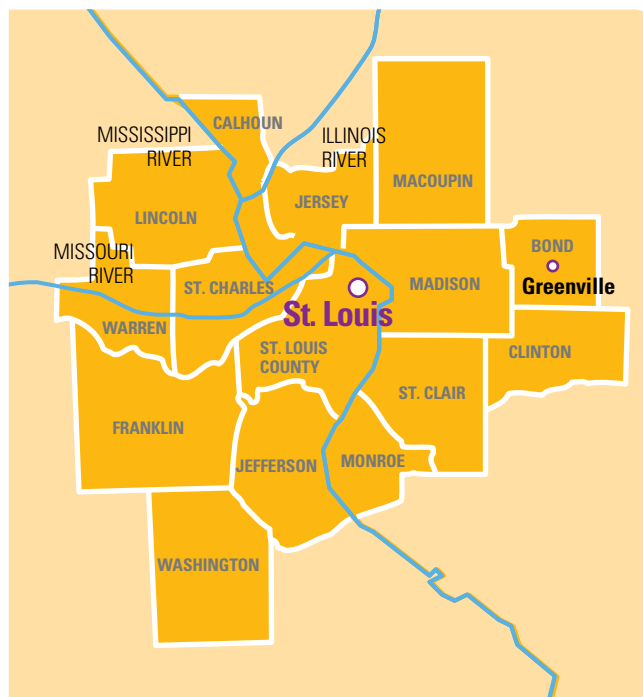
The St. Louis region also has access to two airports – Lambert-St. Louis International Airport, serving FedEx and UPS hubs, and MidAmerica St. Louis Airport – both of which are located in designated foreign trade zones.

Combining the region’s easy-to-navigate, four-tiered transportation infrastructure with its central location creates a recipe for business success, affording local companies some of the lowest shipping costs anywhere in the country.

Located within 500 miles of 30 percent of the U.S. population, the St. Louis region is the sixth-largest center for wholesale trade not located on a coastal port or international border crossing.

Prime Location

The St. Louis metropolitan region, which extends across the Mississippi River into Illinois, boasts a network of interstates, rail service, two airports, and an inland port, providing a wealth of intermodal shipping options.





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"The St. Louis region allows companies to bring their supply chains and products closer to customers by providing quick, efficient, and cost-effective transportation to the rest of the country," says Copilevitz. "The area is, on average, less than a three-hour flight from nearly everywhere in the United States."

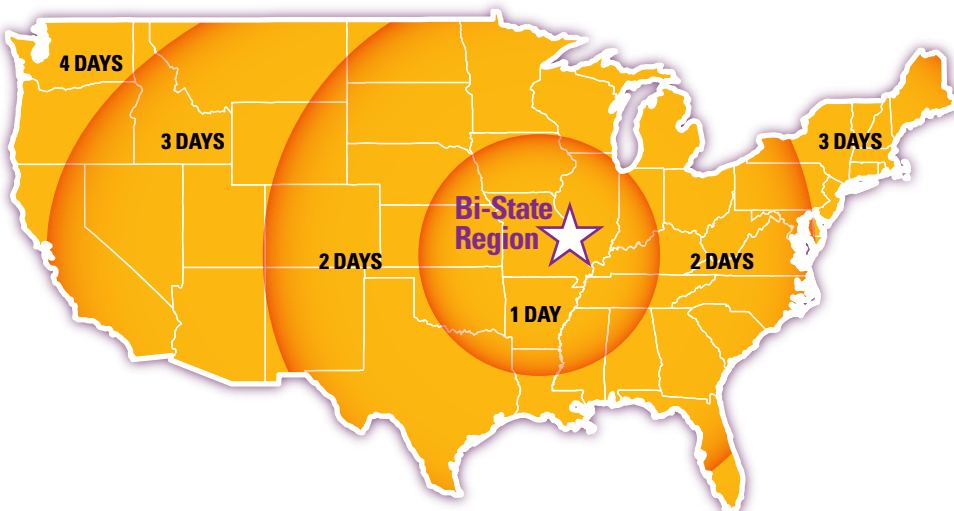
United They Stand

Enhancing St. Louis' appeal for site selection teams is the spirit of cooperation that exists among government entities, business groups, and private enterprise. Today, area governments and civic organizations are working together to attract businesses and investment dollars to grow the regional economy.

Those relationships often cross state lines. Illinois and Missouri have enjoyed a longstanding partnership that began in 1949 with the formation of the Bi-State Development Agency. Now known as Metro, this organization works to improve

Over-the-Road Reach

Items shipped by truck from the bi-state region reach 70 percent of the U.S. population within 48 hours.



the region's transportation resources.

In addition, the East-West Gateway Council of Governments, a transportation planning organization, provides a forum

for local governments in the bi-state area to work together to address issues and opportunities that cross jurisdictional

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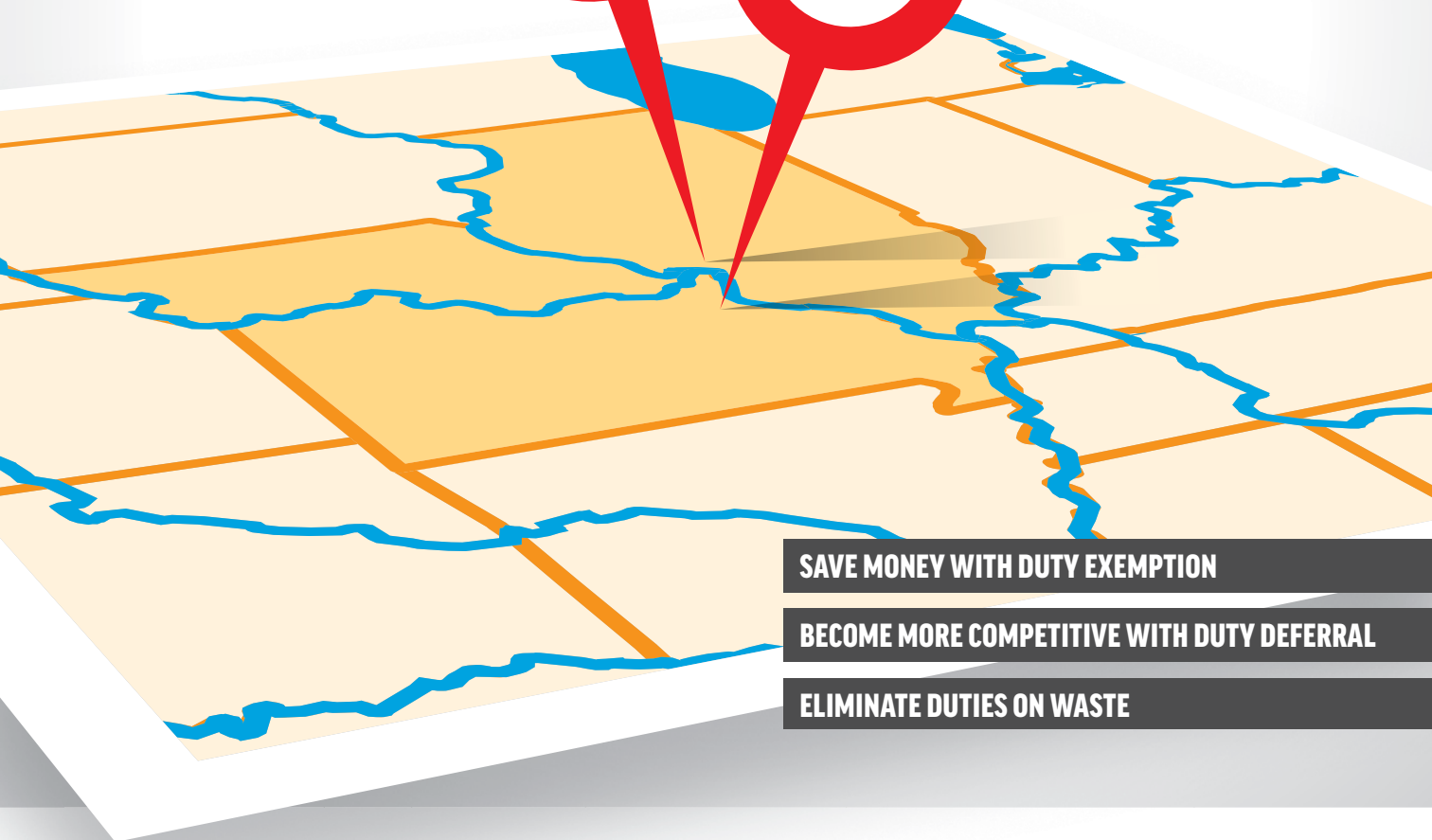
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boundaries. The new \$670-million bridge connecting downtown St. Louis with Southwestern Illinois represents a shining example of the cooperation between the two sides of the Mississippi.

Like so many civic organizations in the St. Louis area, Leadership Council Southwestern Illinois takes a regional approach to growth. The organization was formed in 1983 to promote growth in Madison and St. Clair counties, as well as surrounding counties in Southwestern Illinois.

"The Leadership Council was founded to address issues that might impede economic growth in the region," says Ellen Krohne, executive director of the Leadership Council Southwestern Illinois. "That mission still holds true today."

For 31 years, Leadership Council Southwestern Illinois has served to create a united voice among its members and the many community-based organizations it works with, partnering on initiatives that

have helped re-shape the business environment in Southwestern Illinois.

The Leadership Council is actively involved in helping to enhance the region's logistics assets.

"A lot of land is available around both Scott Air Force Base and MidAmerica Airport," says Krohne. "That represents a growth area for companies involved in air cargo. But this region's access to high-way transportation infrastructure, and the U.S. inland waterway system, are also major benefits."

Big-Name Beneficiaries

The area is home to four major industrial parks, and supports logistics and manufacturing operations for leading companies and brands such as Procter & Gamble, Walgreens, Target, FedEx, and World Wide Technology.

"Companies of this caliber do their homework," notes Krohne. "They locate in the St. Louis area because they know it

is a great place to do business and grow."

In addition to its location, Southwestern Illinois offers a qualified labor pool companies can access for logistics and manufacturing operations.

"Many people stationed at Scott Air Force Base stay in the area after they have completed their military service," Krohne explains. "That gives us tremendous intellectual capital when it comes to people who have experience with logistics and understand supply chain operations."

The Leadership Council's role in addressing impediments to growth in the region is demonstrated in its response to FEMA's efforts to remap the American Bottoms area in Southwestern Illinois and classify it as a special flood hazard area.

When FEMA made its plans known in 2006, the Leadership Council stepped in, working with the East-West Gateway Council of Governments on the Southwestern Illinois Flood Prevention initiative to rebuild the five levee systems

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in Madison, St. Clair, and Monroe counties that protect the American Bottoms.

"The area extends well beyond the river, and is home to more than 255 major companies," says Krohne. "The FEMA designation would have killed growth in the area, and put a tremendous insurance burden on area businesses."

Organized Action

The Leadership Council helped organize the Southwestern Illinois Flood Prevention District Council to battle FEMA's de-accreditation of the 74-mile levee system. The group was instrumental in passing legislation and creating a sales tax to help fix the levees protecting the American Bottoms.

"We worked together to repair the levees to the 100-year level, so we avoided the FEMA designation," says Krohne. "The project is on schedule, and the work should be completed by 2015."

Looking out for local businesses is



A barge passes through the lock and dam north of St. Louis as it makes its way down the Mississippi River.

a common goal in the St. Louis region. World Trade Center (WTC) St. Louis is a regional organization that helps companies throughout metropolitan St. Louis, Missouri, and Southern Illinois reach international markets.

Established in 1993 to develop a comprehensive international business agenda

for the region, WTC St. Louis has helped its clients achieve nearly \$250 million in new business globally.

In the Zone

That figure could grow dramatically over the next few years. Working through a partnership with the St. Louis Port Authority, WTC St. Louis manages a foreign trade zone (FTZ) that is paving the way for companies importing products from international markets.

"Through this new program, we can help companies take advantage of, and capitalize on, new and exciting markets worldwide," says Ana Romero-Lizana, director of International Business Development for WTC St. Louis. "Now, companies can import raw materials without paying duty until those goods ship from the FTZ."

While the FTZ program has existed since 1934, the U.S. Foreign Trade Board modified it in 2009 to be more



Greenville's John W. Kelsey Business and Technology Park offers unmatched transportation solutions and access. The 439-acre park provides customers certified, rail-ready property for a variety of industrial uses and is becoming a destination for companies as a Midwest logistics hub.

Kelsey Business and Technology Park advantages:

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- ★ daily interchange service from Illinois Western Railroad.
- ★ 45-minute commute to downtown St. Louis and Lambert International Airport
- ★ minutes away from St. Louis ports along the Mississippi River
- ★ less than 1 mile from I-70
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The City of Greenville, Illinois is proud that the John W. Kelsey Business & Technology Park was designated a "CSX Select Site" in 2013.

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business- and investment-friendly. The FTZ managed by WTC St. Louis, for example, allows companies to be approved under an initiative called the Alternative Site Framework (ASF).

“ASF allows companies to have part of their own warehouse – or even an entire manufacturing facility – designated as an FTZ,” Romero-Lizana says. “Under the old rules, to be part of an FTZ, businesses had to move imported goods to a certain area and operate there. Now, however, a facility can be designated as an FTZ as long as it is within a 60-mile radius of an approved FTZ area. In St. Louis, this includes Lambert St. Louis Airport.”

Adding Up the Benefits

Operating within an FTZ offers many distinct competitive advantages, including improved cash flow. “For example, a company importing \$215,000 worth of goods requiring a six-percent duty immediately saves \$15,000,” Romero-Lizana explains.

While companies must still pay duties on merchandise leaving an FTZ for a domestic location, the duties may be significantly less if the goods have been transformed through production processes that add value. And being approved under the ASF protocol means companies don’t have to invest heavily in new facilities, or operate separate facilities within a specified location, which can cause logistical and financial impediments.

“The benefit companies derive from FTZs depends on the commodities, raw materials, and components they use to make their products, and whether they do light assembly or advanced manufactur-

“The area’s logistics assets – along with an outstanding workforce – have allowed the Carlisle facility to expand its original footprint of 190,000 square feet and 200 employees to more than 550,000 square

“Leading companies locate operations in the St. Louis region because they know it is a great place to do business and grow.”

– Ellen Krohne, Executive Director, Leadership Council of Southwestern Illinois

ing,” says Sean Mullins, market research director for WTC St. Louis.

WTC St. Louis helps businesses assess these and other factors to determine whether they can take advantage of ASF designation.

Eastern Star

Located 45 minutes east of St. Louis on I-70, the City of Greenville, Ill., is another entity improving the major transportation modes serving the area, including the rail system linking east and west.

In 1979, roofing manufacturer Carlisle SynTec Systems chose Greenville as the location for its first membrane manufacturing plant outside its headquarters in Carlisle, Pa., largely because the area offered CSX rail service and access to Interstate 70.

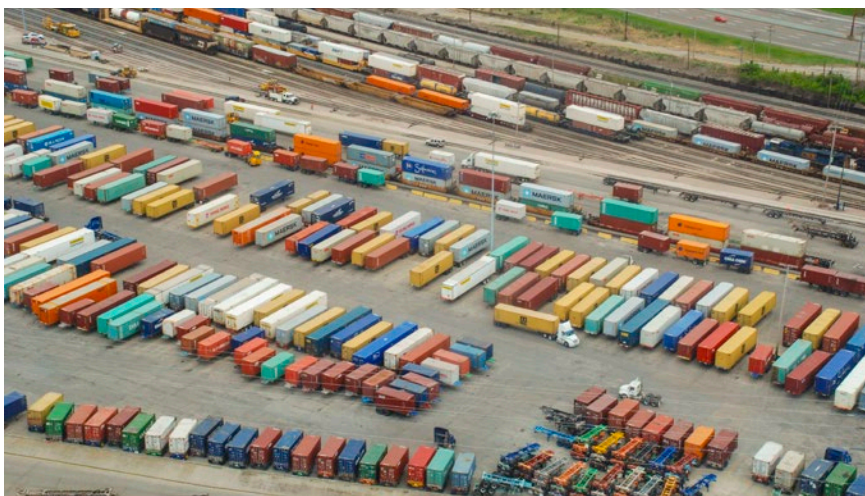
feet and 300 employees,” says Andy Furman, director of membrane manufacturing for Carlisle.

CSX recently designated the 439-acre John W. Kelsey Business and Technology Park a CSX Select Site – one of only five U.S. sites to receive that certification. The park offers easy access to certified, rail-ready properties for a variety of industrial uses. The CSX Select Site designation indicates “green light” properties along the CSX network where projects can move forward rapidly because the rail carrier has identified all known risk factors, and resolved any potential issues.

Located less than one mile from Interstate 70, and 30 minutes from Interstates 55 and Interstate 64, the Kelsey Business and Technology Park is quickly becoming a destination for companies seeking a Midwest logistics hub that will enhance supply chain and transportation savings.

In addition to interstate access and service from two Class I railroads and the Illinois Western Railroad, the park’s location 45 minutes from downtown St. Louis provides quick access to barge and air cargo services – while still avoiding metropolitan traffic congestion.

“As an industrial developer, our goal is to connect with communities that are progressive with their economic development efforts, located in prominent tertiary markets, and whose leaders understand the long-term value of bringing industrial development to their community,” says R. Dean Bingham, president and



The St. Louis region offers access to the third-largest rail terminal in the United States, linking six Class I railroads with more than 4,000 miles of track.

COO of Effingham, Ill.-based Agracel Inc. “Greenville exemplifies the type of community we look for. It has been aggressive in establishing itself as an elite site, with ready-to-go infrastructure, located just outside the St. Louis metro area.

“The city’s location on I-70 and its CSX Select Site designation benefit companies looking to locate or relocate manufacturing or distribution operations,” he adds.

Plugged into Progress

Access to cost-effective and reliable energy resources is essential to any logistics equation. That’s how electric and natural gas provider Ameren helps the St. Louis region support business growth and expansion. An investor-owned utility, Ameren serves approximately 2.4 million electric and 900,000 natural gas customers across 64,000 square miles in Illinois and Missouri. Operating as Ameren Missouri in St. Louis and surrounding communities, and as Ameren Illinois in

Southwestern Illinois, the region boasts a diverse economic base and unique development assets.

“As a fully regulated utility providing both energy supply and delivery, Ameren Missouri brings a balanced energy portfolio, reliable energy delivery, energy efficiency programs, and competitive pricing to the table for business development,” says Cheryl Welge, senior business development executive with Ameren Services.

“In Illinois, Ameren is leading the way to a secure energy delivery future by implementing a five-year modernization program, investing \$15.4 million in infrastructure improvement to better serve the needs of our customers,” she adds.

Ameren Illinois is deploying advanced metering infrastructure to improve service, reduce outage time, and provide timely energy usage information to customers. These upgrades will allow the utility to expand future programs, pricing options, and energy tools to help users

control energy consumption and costs.

“Providing safe, abundant, reliable, and affordable energy helps protect the economic future and viability of the bi-state region,” Welge says. “It is a competitive advantage both for attracting new investment and jobs, and retaining the businesses already here. Ameren partners with local and regional economic development officials to accomplish this goal.”

While Ameren supports St. Louis area companies by delivering energy resources, business-to-business solutions provider Cass Information Systems, headquartered in St. Louis, helps them effectively manage their transportation expenses. With total assets of \$1.3 billion, Cass offers enterprise grade solutions including freight audit and payment, and facilities expense management. These services ease the administrative tasks of invoice processing, create cost savings through invoice audits, and deliver actionable business intelligence.

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Although many aspects of Cass' solution are tactical and task-oriented, the ability to deliver complex solutions and powerful business intelligence is not. After more than 50 years, the world's largest shippers continue to choose Cass for its expertise in all logistics modes, including ocean, rail, parcel, and multimodal shipping.

Cass also provides processing and reporting for all move types, including outbound, inbound, third party, and intercompany. For companies operating in St. Louis, access to Cass Information Systems' services provides an economic advantage.

The Confluence of Rivers

From its beginnings as a fur-trading center more than 200 years ago, the St. Louis region has made use of its natural assets, which include the confluence of the Missouri and Mississippi rivers.

Traversing 70 miles along both sides of the Mississippi River, the Port of Metropolitan St. Louis (PMSL) – the northernmost ice-free port without a lock on the Mississippi River – moved more than 35 million short tons in 2012 alone.

Located on the Missouri side of the river



Service from the Illinois Western Railroad and two Class I railroads makes the John W. Kelsey Business and Technology Park a key intermodal connection for St. Louis area shippers.

along 19 miles of riverfront, the St. Louis Port Authority's Port District – part of PMSL – moves 16 million tons of freight through its facilities annually.

"The majority of tonnage moved through the entire Port of Metropolitan St. Louis comes through this facility," says Otis Williams, executive director of the St. Louis Development Corporation, which manages the St. Louis Port Authority under its umbrella. "The PMSL is the 18th-largest

port of any kind in the United States, and it offers more river crossings than any other city along the Mississippi."

In 2013, the St. Louis Port Authority completed a \$19.8-million reconstruction and expansion of the docks at its Municipal River Terminal. The 27-acre facility includes a 2,000-foot dock and 43,000 feet of river frontage. The terminal can handle bulk commodities such as grain, salt, sand, coal, and scrap metal, as well as project cargo.

While much of the cargo moved through the port is shipped domestically, the international component is a growing portion of the business.

"The steel mills in our region use the ports, but we also move a lot of scrap metal to foreign markets," Williams says.

In addition to the port's two FTZs, more than 130 terminals of varying sizes along both sides of the river give companies access to one of the most cost-effective ways of moving cargo in the nation. The PMSL also offers access to the six Class I railroads serving the St. Louis region, as well as the area's well-connected interstate highway system.

Central Perk

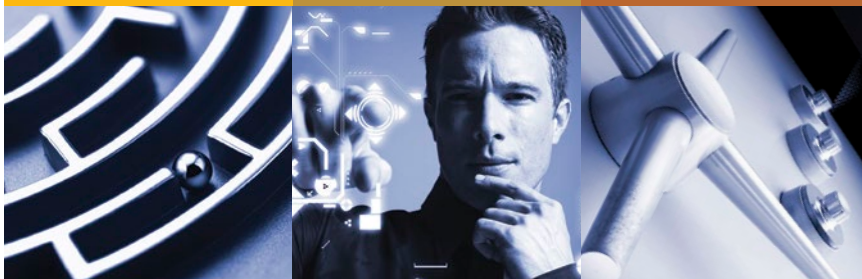
Ports and facilities on both sides of the river work well together to create an environment conducive to business development.

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The leading logistics hub of the St. Louis Region and home to 25% of the St. Louis population, Southwestern Illinois offers an abundance of prime development sites supported by a world-class multimodal system.



The New Spirit of St. Louis

“Several years ago, the Port Working Group was formed to discuss various issues that confront the area’s ports,” says Williams. “Group members share the common goal of trying to increase volume, and market their ports globally.”

For businesses choosing a site in the St. Louis area, America’s Central Port—a 1,200-acre multimodal port located just north of downtown St. Louis on the Illinois side of the Mississippi River—represents a great asset, thanks to the region’s airports, highways, and rail connectivity.

“St. Louis’ location in the heart of the country, and its solid transportation infrastructure, make the city a great place to do business,” says Dennis Wilmsmeyer, executive director of America’s Central Port. “Companies that use multiple transportation modes to move freight reduce transportation costs significantly as a result of locating in the St. Louis area.”

Foreign Trade Zone 31, granted to America’s Central Port, was expanded in 2003 by nearly 5,000 acres to include nearby Gateway Commerce Center and St. Louis MidAmerica Airport. Companies using the FTZ can import products duty free within the zone, where

they can be handled, assembled, packaged, or even destroyed.

America’s Central Port is investing heavily in both transportation and infrastructure. Since 2009, the organization has spent \$2 million on new roads, and \$5 million on new rail lines. By the end of 2014, it will complete a new \$45-million harbor on the Mississippi River.

“Manufacturing and distribution companies understand that time is money, and the better the access, the better they will do,” adds Wilmsmeyer. “Our role is simple: provide a world-class transportation center. Companies will find a way to access us—and they do.”

Two If By Air

Located in the geographic center of the United States, Lambert-St. Louis International Airport is within 500 miles of one-third of the U.S. population. The airport provides a 24/7/365 operation, without imposing curfews or parking fees on all-cargo aircraft.

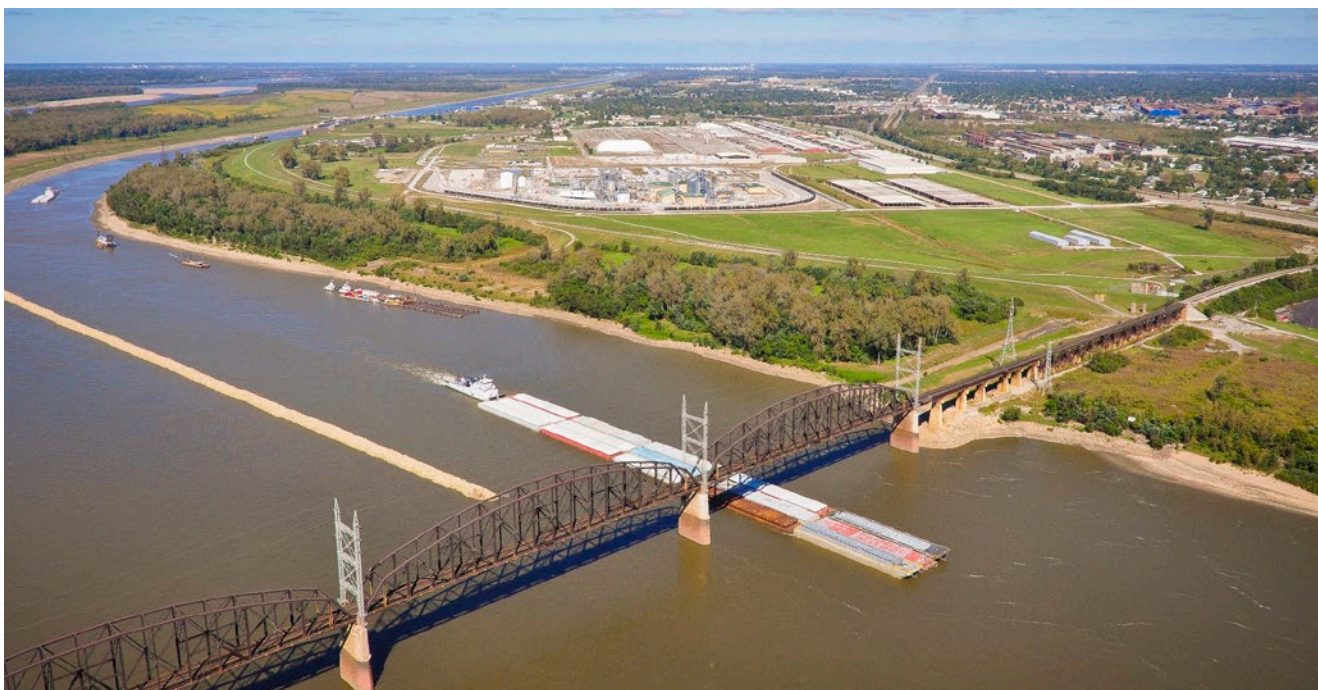
With four operational runways providing landing, the facility is capable of handling all types of cargo aircraft. Its two existing cargo facilities—one on the

north side and one on the south side—provide sufficient capacity for immediate growth. For long-term growth, the airport has allocated an 80-acre site with ramp parking for cargo aircraft to be developed as needed.

The airport—the largest in the region—is located within FTZ 102, and serves 11 passenger and cargo airlines. Ground handlers manage full-service facilities, and U.S. Customs and Border Protection (CBP) and the U.S. Department of Agriculture operate on-site.

The City of St. Louis owns and operates the airport, which ensures the facility works closely with all regional stakeholders. It is a leading member of the Midwest Cargo Hub Commission, charged with supporting the expansion and growth of cargo activity at the airport.

Working closely with public and private organizations such as The St. Louis Economic Development Partnership, World Trade Center, St. Louis Regional Chamber, and Civic Progress, the airport plays an active role in promoting the region’s logistics advantages and attracting new business to the area. It offers a



Occupying 1,200 acres north of downtown St. Louis on the Illinois side of the Mississippi River, America’s Central Port provides multimodal connectivity. The facility has invested \$7 million in road and rail infrastructure, with a new \$45-million harbor still to come.



As part of Foreign Trade Zone 31, MidAmerica St. Louis Airport enables shippers to save on import and export duties and taxes.

generous incentive program to new airlines, providing an 18-month waiver of landing fees and terminal rentals based on a two-year service agreement. In addition, the region supplies marketing support to assist airlines establishing themselves in the St. Louis market.

Lambert-St. Louis International

Airport isn't alone in serving the region's air cargo needs. MidAmerica St. Louis Airport – one of only 22 joint-use airports in the United States – is uniquely positioned to serve the St. Louis area. Located across the river from St. Louis in Mascoutah, Ill., MidAmerica shares its landing strips and facilities with

neighboring Scott Air Force Base (AFB).

Scott AFB is home to the United States Transportation Command, United States Army Surface Deployment and Distribution Command, and the Air Force Global Logistics Support Center. In addition to supporting these military logistics operations, MidAmerica St. Louis Airport is taking a four-pillar approach to building its base of civilian air transport and ground-based businesses.

"The first pillar is to be the best joint-use airport in the nation," says Tim Cantwell, director of MidAmerica St. Louis Airport, and a former F-16 and F-15E Combat Unit Commander in the Air Force.

"The second is to be a trade route for the Midwest to deliver goods and services to the world," he says. "This initially involves linking Latin America to Asia through MidAmerica.

"The third is to host domestic leisure and national passenger service that offers

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travelers less hassle and more convenience. The fourth is to host all those other businesses that naturally migrate to airports,” Cantwell adds.

MidAmerica St. Louis Airport gained a distinct logistics advantage in 2003 when the U.S. government expanded Foreign Trade Zone 31 – which also includes America’s Central Port – to encompass MidAmerica. “The area is unique in that FTZ 31 includes both an airport and a river port,” says Cantwell.

In 2006, the airport was also designated to operate as U.S. Port of Entry 4581. This development allowed the facility to process seed and produce imports from Chile, a business that has grown substantially thanks to clients and tenants such as North Bay Produce, an international, grower-owned, year-round, fresh produce and distribution cooperative operating at MidAmerica.

North Bay uses MidAmerica’s warehousing services, and distributes its

imported and domestic fresh produce across the globe via air freight.

“The Midwest’s greatest value is its food resources, so providing perishable food distribution services is a strategic way to enhance air commerce in the region,” says Cantwell. “North Bay Produce is proving that business model works. We are able to import fresh produce in winter, while exporting fresh produce grown in the United States to markets around the globe.

“Some companies don’t consider a Midwest airport as a point of entry to the United States, but it certainly can be from the air,” Cantwell adds.

Logistics & Educational Assets

“Located in the middle of the country, the St. Louis region is an attractive place for a logistics cluster of warehousing and transshipment operations linked to the East and West Coasts,” says Professor Sergio Chayet, academic director of the Master’s Degree in Supply Chain Management Program, and director of the Operations and Supply Chain Management MBA Platform, at the Olin Business School at Washington University in St. Louis.

“The St. Louis region provides excellent access to major transportation resources, such as rail, interstate and state highways, two airports with ample freight capacity, and the confluence of the Mississippi and Missouri rivers,” notes Chayet.

“Several local and non-local manufacturers and third-party logistics providers have taken advantage of these transportation and intermodal assets by locating production or distribution facilities in the region,” he adds. “They also benefit from the research, education, and business consulting from local universities. Faculty in Washington University’s operations

and manufacturing management group, for example, conduct fundamental research on supply chain management, and are recognized as thought leaders in that field.”

The university’s faculty conducts much of this research in close collaboration with the school’s corporate partners. That collaboration allows supply chain executives to see their supply chain and logistics challenges from new perspectives, and consider novel approaches.

“Faculty directs these projects—often staffed by graduate students pursuing an MS in supply chain management, MBA, or PhD in the field—to provide valuable, actionable solutions to the clients’ operational and management challenges,” says Chayet.

The relationship also provides faculty members both a source of challenges for relevant research, and an opportunity to validate their ideas in the real world.

As an additional component of the partnership, Washington University’s Boeing Center for Technology, Information, and Manufacturing organizes conferences, during which speakers from the center’s corporate partners discuss supply chain topics, and share challenges and best practices.

Washington University collaborates with corporations in the St. Louis area on supply chain management research and conferences.



A Longstanding Relationship

Many businesses that locate manufacturing and distribution facilities in the St. Louis region rely on transportation and logistics providers to bring their products to market. As a third-party management company focused on helping businesses develop creative, efficient, and cost-effective logistics solutions, Hogan Logistics knows the need for efficient cargo transport has never been greater.

With four different transportation companies that include Hogan Logistics, the Hogan family of companies has been an integral part of the St. Louis logistics community since 1918. Now in its third generation, Hogan has a rich and deep logistics history in the region.

“St. Louis is a hub for complex domestic and international distribution processes,” says Benjamin Strickler, vice president of logistics for Hogan Logistics. “Geographically, we are able to meet businesses’ supply chain demands throughout the United States, and provide a centralized infrastructure for servicing Mexico’s emerging presence.

“Corporate initiatives to bring product manufacturing closer to the U.S. market has created demand for intermodal services,” he adds.

With neighboring cities and resources such as Kansas City and the Kansas City Southern Railway, St. Louis provides an excellent place for corporate residence, and a direct connection to south-of-the-border commerce.

"Hogan is constantly engaged in providing multimodal service offerings through the use of our company-owned assets, as well as outside vendor relationships," Strickler continues. "Being part of the 'Gateway to the Midwest' allows us to provide truckload, dedicated, LTL, intermodal, logistics, and leasing services. We work to meet the supply chain demands of our customers, and St. Louis provides the platform for offering a complete supply chain solution."

With almost 100 years of experience, Hogan has been very successful in developing a complete supply chain solution. The company's four divisions provide over-the-road transportation, third-party logistics management, dedicated contract carriage, and equipment leasing and rental services. A sophisticated internal infrastructure between operating entities allows the company to fulfill customers' supply chain needs, while maintaining a seamless one-stop shop.



St. Louis-based Hogan Logistics supports federal, state, and local government agencies working to improve transportation infrastructure and rules. For example, the transportation provider has served as a test carrier to help the Federal Motor Carrier Safety Administration develop safety regulations.

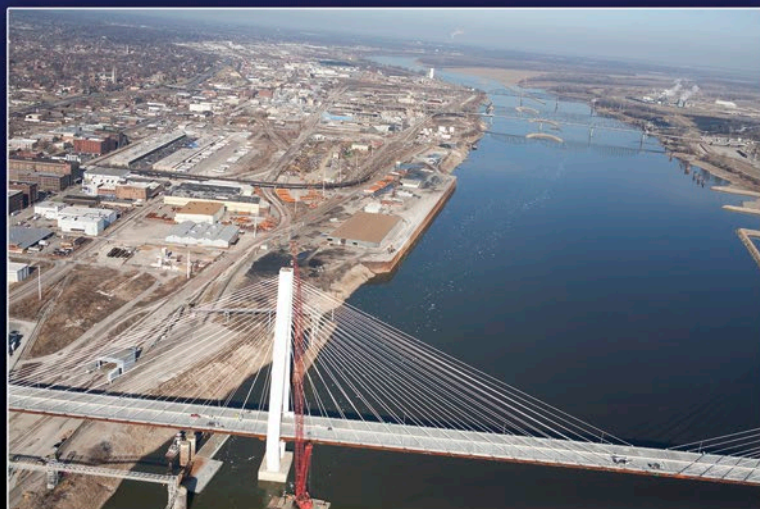
To promote local economic growth, Hogan supports and partners with federal, state, and local government agencies throughout Missouri and the St. Louis

region. Starting in 2008, and throughout the development of the Federal Motor Carrier Safety Administration's Behavior Analysis and Safety Improvement

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Operations: Nick Nichols, nicholsn@stlouis-mo.gov
Port Development: Susan Taylor, taylors@stlouis-mo.gov

Category program, Hogan represented a handful of qualified test carriers in Missouri committed to ensuring a fair safety-based regulations process.

Through the U.S. Environmental Protection Agency's Smartway Transport Partnership, Hogan works continuously to reduce greenhouse gas emission and air pollution throughout the St. Louis region and nationwide.

Operating Online

The growth of e-commerce and online retail is complicating the business of getting purchased goods into consumers' hands. Fulfillment companies must be able to ship one-off orders to individual consumers, but also handle sophisticated multi-channel retail operations.

Using the skill set, technology, systems, and infrastructure developed for a wholesale distributor of IT supplies and equipment, one St. Louis area company is changing how retail works with e-commerce—from the way products are delivered, to the way companies bring innovations to market.

With offices in St. Charles and Hazelwood, Mo., DM Fulfillment—which operates under its parent company, Distribution Management—is using the infrastructure developed by its sister company Supplies Network to transform e-commerce.

Powerful Positioning

Distribution Management started in the 1970s as a distributor of typewriters and typewriter supplies. In the early 1990s, Supplies Network launched, and it is now one of the country's largest independently held wholesale distributors of IT supplies, equipment, and managed print services, surpassing \$500 million in annual revenue.

"As a leading wholesaler, Supplies Network leverages one of the best U.S. distribution networks in the industry to deliver more than 8,000 SKUs from 70 leading manufacturers," explains Sean Fleming, CEO of Distribution Management. "Today, Distribution Management and its divisions—Supplies

Network and DM Fulfillment—maintain an extremely advanced and efficient fulfillment and distribution model, with expertise in small packaged goods.

"With DM Fulfillment, the company is expanding into businesses that are completely unrelated to its core," he notes.



Based in St. Charles, Mo., DM Fulfillment manages online retailers' distribution operations through an order management system that evaluates each order to suggest the optimal shipping point.

Using the company's four distribution centers in Dallas; Fresno, Calif.; Carlisle, Pa.; and St. Louis, DM Fulfillment has developed an innovative logistics model.

"We are uniquely positioned to handle small to mid-sized e-commerce shippers," says Bob Klunk, managing director of DM Fulfillment. "Today, companies don't require abundant resources to function on a large scale. They can take advantage of our existing infrastructure, and—without a lot of investment and integration—expand into mainstream commerce."

While smaller boutique retailers can be more flexible and adept at bringing new products to market, larger retailers often want a new vendor to break in a new product through an e-commerce suite before they give up valuable real estate inside a brick-and-mortar store. DM Fulfillment is uniquely positioned to handle both ends of the spectrum.

"Some customers ship one-off orders through shopping cart integration, while others implement true e-commerce through sophisticated multi-channel retail, where we send a product out under multiple brand names and through multiple channels," says Klunk. "Traditionally,

3PLs serve retail needs well, but may not be able to handle single-unit orders or shopping cart integration. They aren't equipped to serve smaller e-commerce businesses."

Optimizing Order Fulfillment

DM Fulfillment handles orders received through a retailer's website—whether small mom-and-pop boutiques or major mass market accounts—often using labels and bar codes specific to the individual retailer. Its distributed order management system evaluates every order to suggest the optimal shipping point, allowing the retailer to tailor distribution to reduce delivery time and shipping costs.

"We may run a company's orders out of St. Louis for three or four months, finding that 40 percent of the orders are coming from the West Coast. We can move the company's inventory to our

Fresno distribution center so 40 percent of the orders ship from California,” Klunk explains. “We can constantly reposition inventory to put it closer to the end consumer, which is essential in e-commerce.”

These operations are coordinated out of DM Fulfillment’s headquarters in St. Charles, Mo.

Flat is Where It’s At

Another company serving the St. Louis region’s logistics needs is Flat World Supply Chain, a third-party logistics company providing transportation management services, including both truckload and less-than-truckload shipments.

“We help businesses manage their transportation, and select the right carriers to meet their specific shipping needs,” explains Kirk Ferrell, managing partner of Flat World Supply Chain. “We deliver these transportation management services through proprietary software we developed several years ago.”

Flat World Supply Chain serves myriad companies in diverse industries ranging from the oil and lubricant business to office products.

“We also operate Flat World Hospitality Services, which helps companies in the hospitality industry manage upgrades to their furniture, fixtures, and equipment at properties across the United States,” says

Ferrell. “Our portfolio includes everything from warehousing to installation work.”

St. Louis’ central location helps Flat World Supply Chain’s hospitality clients service their many properties across the country. The region’s easy access to major

transportation modes keeps shipping and service costs on the low end.

“St. Louis also offers a low cost of living, and excellent access to working capital,” adds Ferrell. “And the local workforce is high-quality, especially for logistics operations.”

Working the System

Flat World Supply Chain worked with St. Louis-based Anvil Technology Partners to develop transportation software that integrates with almost any enterprise resource planning or operating system, enabling its customers to make quick and informed decisions throughout the business process.

The system handles purchase order management, optimized carrier selection, transportation execution tasks, and freight bill audit and payment.

Flat World’s technology provides yet one more example of how the St. Louis area has long been a gateway for trading and commerce, linking east and west.

With its central location, transportation infrastructure, and the spirit of cooperation

between business and industry, St. Louis is a gateway for commerce – now and into the future. ■

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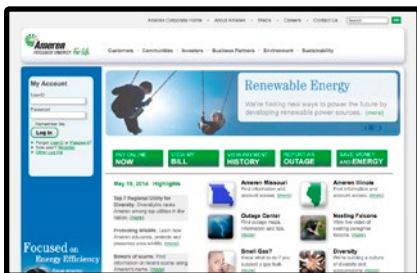
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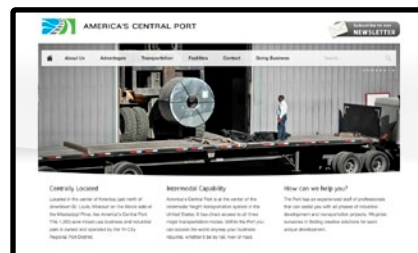


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America's Central Port • www.americascentralport.com

America's Central Port, which is managed by the Tri-City Regional Port District, is strategically located in the heart of the United States on the Mississippi River, and adjacent to an excellent highway system. The Port and its tenants offer a wide range of services and facilities, including: barge, rail, and truck commodity transfer; industrial, commercial, and residential development sites; and warehouse and commercial lease opportunities.

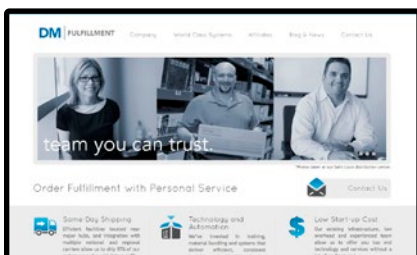


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City of Greenville, Illinois • www.greenvilleillinois.com

The Greenville, Illinois-based 439-acre John W. Kelsey Business & Technology Park, which is a CSX Select Site, also features easy interstate access and service from two Class I railroads, as well as daily interchange service from Illinois Western Railroad. Its proximity to St. Louis is an attractive feature allowing for quick access to barge and air cargo services. Located less than one mile from Interstate 70, and less than 30 minutes from Interstate 55 and Interstate 64, the park provides a great site for companies seeking a Midwest logistics hub.



DM Fulfillment • www.dmfulfillment.com

DM Fulfillment delivers one-day and two-day ground shipping to 98 percent of the U.S. population from its distribution centers in Dallas, Texas; Fresno, Calif.; St. Louis, Mo.; and Carlisle, Pa. We offer same-day fulfillment and late order cutoff. With low startup costs, and integration to e-commerce platforms, DM Fulfillment can store, pick, pack, and ship products without mistakes. We can fulfill your orders and manage returns efficiently through our use of technology and automation. DM Fulfillment will promote your brand with customized packaging, print-to-order inserts, and your logo on the packing slip and label.

The Best of St. Louis on the Web

Flat World Supply Chain LLC • www.flatworldsc.com

Flat World provides transportation insight and technology tools to enhance our clients' ability to make quick and informed decisions. We help to drive efficiencies throughout our clients' business processes, including purchase order management, optimized carrier selection, transportation execution tasks, and freight bill audit and payment.

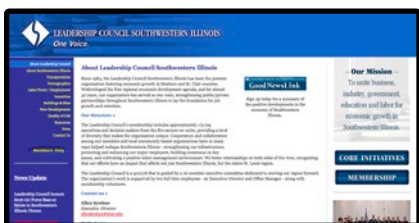


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Leadership Council Southwestern Illinois • www.leadershipcouncilswil.com

Hosted by the Leadership Council Southwestern Illinois, www.leadershipcouncilswil.com is the source for information about Southwestern Illinois, a leading center for trade and distribution. Located just a river's width from St. Louis' Gateway Arch, Southwestern Illinois offers an abundance of prime development sites supported by a world-class transportation system offering affordable access to the Midwest, the U.S., and beyond. Call (618) 692-9745 for more information.

MidAmerica St. Louis Airport • www.flymidamerica.com

The newest cargo airport in the Midwest, MidAmerica is located at the intersection of U.S. Interstates 70, 55, 64 and 44, near the Mississippi River. The airport is accessible to rail, and an ideal intermodal location. MidAmerica features a 50,000-square-foot passenger terminal; 50,000-square-foot cargo building; and 8,000- and 10,000-foot runways that are dual ILS approach capable. Visit www.flymidamerica.com for more information.



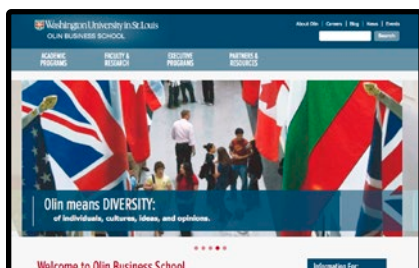


St. Louis Port Authority • www.stlouis-mo.gov

Six Class I railroads and seven interstates serve St. Louis, the northernmost lock- and ice-free port on the Mississippi River. We have 11 river crossings, fleetings for 2,000 barges, and 106 million tons of annual river throughput. Our Municipal River Terminal has a new 2000 dock and a pending long-term operator lease.

St. Louis Regional Chamber • www.stlregionalchamber.com

St. Louis enjoys access to four modes of transportation: air, rail, road, and river, providing superior access to local, national, and international markets. Its central location affords some of the lowest shipping costs in the nation. Due to its rivers, St. Louis is home to the second-largest inland port by tonnage. With six Class I railroads, and several smaller industrial lines, St. Louis is also one of the nation's largest rail centers.

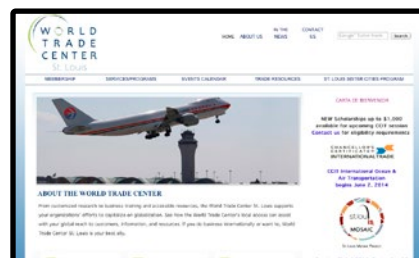


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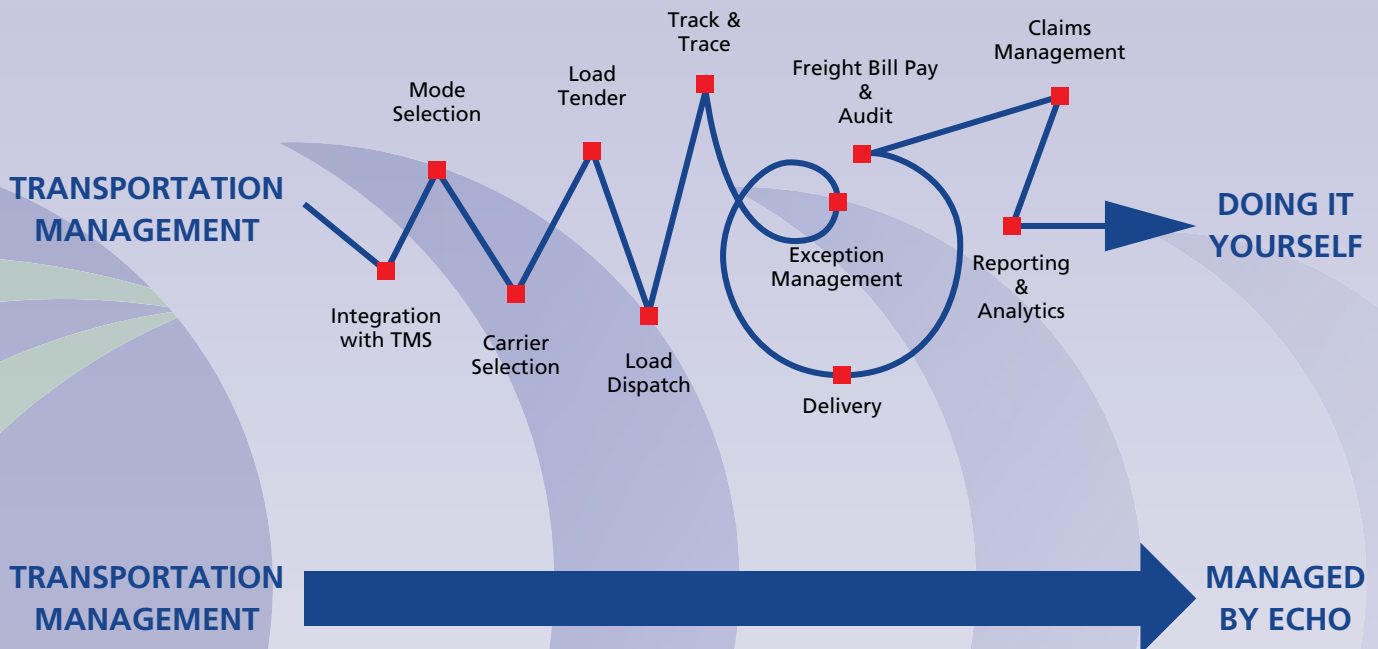
Located in the heart of the Midwest, Olin is one of the country's leading research-oriented business schools. Its degree programs are known for their demanding scholastic standards and emphasis on experiential learning. "Research-driven thinking, applied" is the organizing principle across the school's degree and nondegree programs, which emphasize developing the rigorously analytical, critical-thinking skills; applied learning; global competence; and communication and collaboration skills needed to solve today's complex, unstructured business challenges. The school's small size allows for a deeper level of interaction, participation, and program customization, which, in turn, fosters key relationships that provide endless opportunities for continuous achievement.

World Trade Center St. Louis • www.WorldTradeCenter-STL.com

World Trade Center St. Louis and the St. Louis County Port Authority manage Foreign Trade Zone #102. Save money and become more competitive through duty exemptions and deferrals. Additionally, Foreign TradeZone #102 offers direct access to the nation's extensive rail and interstate freeway systems.



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KEEPING INTERMODAL



IN YOUR SITES

Eyeing a new location for your plant or DC? Make sure it's rail/intermodal accessible, and served by progressive transportation providers.

Rail is resurging. After more than one decade during which a combination of sea, air, and over-the-road addressed most shippers' transport needs, a myriad of forces is bringing domestic intermodal rail back into the picture.

Acknowledging the challenges confronting motor freight carriers—from driver shortages, Hours-of-Service regulations, and electronic log book requirements to rising fuel costs and declining road infrastructure—railroads have been improving track and facilities, as well as service offerings, to meet the needs of a wider array of shippers. The level of coordination among modes is also on the rise, as trucking companies use rail for some legs, and vice versa.

At the same time, shippers are shifting their approach to manufacturing by moving final assembly processes closer to market. As they reconsider their networks, shippers are viewing rail as an opportunity to bypass busier ports, speed shipments, and find new ways to get to customers.

Changing transportation patterns have driven an increase in domestic intermodal. Total intermodal shipments grew 4.6 percent

in North America in 2013, and domestic container volume was up 9.4 percent, according to the Intermodal Association of North America. While rail intermodal's percent of volume can still be measured in the low single digits compared with trucking, it is growing at a healthy clip.

THE NEW RAIL

Rail has resurged in the past. But this time, it's different. "In the heyday of the 1990s, railroads worked with shippers by presenting rail-served facilities or by bringing in a spur," recalls Bill Luttrell, senior locations strategist for transportation and logistics provider Werner Enterprises. "Today, the mindset has changed. Railroads are more interested in keeping the main line going, therefore manufacturing and warehouse/distribution center site selection is more focused on existing and planned intermodal facilities."

Domestic intermodal is taking its place beside international transportation as a key component of supply chain management, particularly for consumer products and finished goods.

"International distribution was the key driver of the intermodal

craze in the early 2000s, followed by domestic movement and the conversion of truck to rail in the past three to five years,” says Michael Murphy, chief development officer for logistics-focused developer CenterPoint Properties. “Now, the signs point to manufacturing coming back. Companies considering a new plant are looking at labor and logistics/transportation benefits.” CenterPoint’s pipeline is starting to see increases in the number of manufacturers wanting new facilities near roads and intermodal.

It makes sense to consider rail and intermodal, especially when moving cargo more than 500 miles. “Companies are starting to locate along major intermodal corridors, and taking a closer look at intermodal facilities,” says Luttrell. But others report profitable use of domestic intermodal at even shorter distances.

THE FEC ADVANTAGE

It’s hard to find a more clear-cut alternative to trucks than Florida East Coast Railway (FEC), which stretches 351 miles from Jacksonville to Miami. Like a truck carrier, the railroad provides scheduled service: six trains daily in each direction, so it can offer late cut-off times. FEC uses concrete rail ties that enable autos and carloads to mix with intermodal containers on each train. This infrastructure allows the train to maintain the speed needed to meet shippers’ tight delivery schedules.

Increasing demand for intermodal at a congested Ft. Lauderdale facility prompted FEC to initiate a \$73-million, 42.5-acre intermodal terminal at Port Everglades. The facility will increase FEC’s intermodal capacity from 100,000 to more than 450,000 lifts daily. The facility, scheduled to open in July 2014, will use wide-span cranes to transfer both international and domestic containers between ship and rail. It will also handle domestic containers originating in, or destined for, U.S. markets on the East Coast.

The service offers numerous advantages. “Many ocean carriers don’t want their international containers moving inland because it’s expensive to truck them back to the port,” explains Jim Hertwig,

president and CEO of Florida East Coast Railway. “But, because FEC has many 53-foot domestic containers, we can transload cargo from three 40-foot containers to two 53-foot containers, which can be in Atlanta or Charlotte in two days. And it’s all backhaul traffic, so shippers derive that economic value.”

FEC also offers on-dock rail at the Port of Miami, one of only three East Coast ports that will accommodate larger steamships using the widened Panama Canal, with four Super Post-Panamax 65-long-ton

coast. The region also offers a strong workforce and an expanding population.

“Some shippers say you can’t use intermodal for freight moving fewer than 500 miles, but 45 percent of FEC’s business is 350 miles or less,” says Hertwig. “We do it every day.”

FRONT AND CENTER

Railroads such as FEC, as well as real estate developers and business development groups, are eager to help shippers find ideal locations to meet their emerg-



Intermodal represents a major portion of Florida East Coast Railway’s business. To leverage the increase in intermodal volumes across North America, FEC packaged its line-haul rail moves with a drayage service to deliver cargo to the consignee’s door.

cranes and a deeper harbor. In addition, by enabling an all-water route from west to east to reduce fuel costs, Port Miami will serve as a transshipment hub when shipments arriving from Asia are dropped there, then quickly transloaded.

The economic benefits of using rail through Florida are clear, but shippers can also reduce transportation costs by taking advantage of the large parcels of rail-adjacent property FEC owns on Florida’s east

ing needs among the many existing, new, and planned intermodal facilities cropping up—particularly in the center corridor of the United States.

Much of the investment in new or improved rail intermodal facilities is taking place in the center of the United States—near the interstate highway system, but far from already congested port locations. Shippers are tapping into this central location in a variety of ways—to not only



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serve local markets, but also to reach a substantial portion of the U.S. population within a one-day drive.

Intermodal facilities bring together two or more modes—often rail and truck carriers, but sometimes barge as well. Some

shippers appreciate the opportunity to use a single provider for both the rail and trucking portions of their transportation by engaging intermodal services.

In some cases, containers arriving at East or West Coast ports move directly onto

rails bound for central U.S. ports, where they are unsealed and processed through Customs. Another option is moving cargo via barges traveling up the Mississippi to ports along the waterway, then by rail to intermodal facilities.

INTERMODAL MATTERS

There are a number of factors to take into account when selecting a manufacturing or distribution site near an intermodal facility.

The basic steps for choosing an industrial site include a logistics lane and centroid analysis; site screening and selection; site visits; and negotiations, according to Bill Luttrell, senior locations strategist for transportation and logistics provider Werner Enterprises. If one goal is to increase intermodal use, that

needs, such as proximity to suppliers or customers. A pro forma analysis looks at a shipper's needs over the next three to five years. If rail access is a criteria, for example, the analysis looks for facilities within approximately 300 miles of identified regions.

Additional site selection considerations include:

- Access to major truck corridors.
- Workforce availability and readiness. Some verticals require access

■ Intermodal facility location and characteristics. Intermodal facilities that have invested in state-of-the-art cranes can load and unload more efficiently, speeding cargo transfers. Some offer specialized capabilities, such as handling trailer on flatcar, or reefers.

■ Proximity to customers and/or suppliers.

■ Site characteristics, including the cost of land, and the availability and readiness of utilities.

■ Incentives. Many state and local governments have prepared packages of tax advantages to attract shippers.

■ Availability of a foreign trade zone, if applicable.

■ Livability. The cost and quality of life for workers.

In site visits, shippers typically meet with officials and interview shippers already operating in the area. Some companies engage a site selection consultant to steer them through the process.

Although Werner is a trucker at heart, “we are one of the few large transportation and logistics companies offering site selection services,” says Luttrell. “Location is an integral piece of the supply chain puzzle, so we build our site selection process heavily around logistics and supply chain factors.”

Luttrell is responsible for advising clients on where to build manufacturing and distribution sites, as well as for the carrier's own site selection process. That includes locating in intermodal facilities.

Werner embraces appropriate use of rail. “We look at intermodal as yet another way to move goods on behalf of shippers,” says Luttrell. “We encourage intermodal where it makes sense.”



Werner's Intermodal Services' team offers site selection support by analyzing shippers' networks. It also provides and manages customized shipping solutions supported by 26,000 owned pieces of equipment and the ability to access more than 50,000 free-running containers.

analysis should consider intermodal facility availability early in the process.

Lane and centroid analysis uses software to identify regions that satisfy

to seasonal workers to accommodate surges. Competition for labor is also a factor. Some locations also stress the availability and training of truck drivers.



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Locating distribution centers in the immediate vicinity of intermodal facilities enables shippers to reduce drayage costs, because sites are often available in close proximity. “We find the drayage maximum is 200 miles,” says Luttrell. “A good intermodal facility will serve a lot of people within 200 miles.”

Shippers maintaining facilities within intermodal parks report drayage costs as low as \$35 per haul, versus \$150 to \$200 for longer hauls.

For example, CenterPoint Properties completed inbound international container distribution centers near intermodal facilities for two major retailers: Walmart, adjacent to BNSF’s facility at CenterPoint Intermodal Center in Elwood, Ill., and Home Depot, near Union Pacific’s Joliet, Ill., facility. The retailers bring in containers from Asia, expedite them through West Coast ports, and load shipments onto trains for the five-day trip to these facilities, which are also foreign trade zones.

Once containers are transferred onto



CN is the only railroad with connections to three coasts. With 23 strategically located intermodal terminals, CN provides shippers with access to more than 75 percent of the U.S. population, and all major Canadian markets.

chassis, the retailers’ own employees transport them the short distance to their facilities, where containers are opened and

goods are distributed to stores, eliminating lengthy drayage moves by third parties.

“Walmart and Home Depot control the timing, eliminate cost in their supply chain, and ultimately handle product efficiency and create revenue on a timely basis,” says CenterPoint’s Murphy. Home Depot’s drayage savings alone paid for its annual rent on the facility, he adds.

In newer or expanded intermodal facilities, sites are often available near loading and unloading operations, which shortens drayage distances. Inland intermodal facilities often encompass an entire 360-degree area in which to offer sites, compared with the half-circles around seaports. Land rates are usually lower for intermodal ports located away from major metropolitan areas.

While large retail and consumer goods companies are driving much of the increase in domestic intermodal, automotive and a few other industries are also increasing their use.

Once companies empty their inbound containers, they often then use them to move raw materials such as grain and corn, or even partially assembled products outbound. Some shippers derive cost benefits from using their containers for backhaul, and steamships get their containers back

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faster, which generates more revenue. Other uses for inbound containers include sub-assemblies moving back to international locations.

THE RIGHT SITES

The U.S. central corridor offers a number of current and pending intermodal centers with sites available for manufacturing and distribution facilities. Here are a few options:

■ **Canadian National's RidgePort Logistics Center, Memphis, Tenn.**, offers access to rail, truck, and barge services, as well as to Canadian National Railway's (CN) complete network, enabling shippers to reach three coasts seamlessly. The new logistics center will have 800 acres of land for development, with the first availability by fall 2014.

That access only makes Memphis more attractive to manufacturers and distributors looking to site new facilities, says Sean Goff, director of planning and development for CN's Intermodal Group.

"Because CN offers single-line service, and leverages the geographic advantages of Prince Rupert and Vancouver, it is able to provide shippers a speed advantage," says Goff. "We can operate an 18- to 20-day service from Shanghai to Memphis, dependent on port rotations."

Taking advantage of the Memphis area's central location, strong highway capacity, and intermodal capabilities are major companies including Disney, Cummins, Toyota, Nike, and Brother International Corporation. Government and business development resources offer a full complement of assistance services and incentives to help new companies locate in the area.

RidgePort's location, combined with its array of services, "allows ocean shippers to consolidate operations in a single terminal and railway, and cut logistics and drayage costs," says Goff. One such service is matchback—where CN's Supply Chain Logistics Group works with the steamship lines to facilitate loading of containers back

to the port of origin—for example, transloading containers with grain back to Asia, reducing costs for all parties.

With its full-service forwarding unit, CN's Supply Chain Logistics Group can also manage cargo all the way from origin through destination, so shippers deal with only one service provider for the entire move.

The CN RidgePort Logistics Center was developed by Jones Lang LaSalle and Ridge Property Trust to meet CN's unique market requirements.

■ **CenterPoint Intermodal Center (CIC), Joliet and Elwood, Ill.** Located 40 miles southwest of Chicago, CenterPoint calls its Intermodal Center the largest master-planned inland port in North America. The CIC, which encompasses both the Union Pacific and BNSF intermodal terminals, covers more than 6,500 acres and is adjacent to the I-55/I-80 interchange. CenterPoint also manages a barge terminal in Joliet.

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Besides price competitiveness, the proximity of the two intermodal facilities offers a unique benefit to shippers: two independent supply chains coming together in one location. “That’s a rarity,” says Murphy.

CenterPoint Intermodal Center still has many available sites near each intermodal facility. In addition to the low drayage costs, other benefits include a foreign trade zone designation; the presence of new road, water, and utility systems; and skilled labor in the area.

“Shippers bringing 2,500 containers or more into the Chicagoland area should

consider whether to locate a warehouse closer to intermodal facilities to gain economies of scale,” advises Murphy.

■ **Heartland Intermodal Gateway Facility, Wayne County, W.Va.** The Wayne County Economic Development Authority is on a mission to make the West Virginia region a national transportation hub. A \$30-million intermodal facility—which occupies about 100 acres adjacent to Norfolk Southern’s terminal and is expected to open in Prichard, W.Va., in July 2015—is helping that effort considerably. With a full array of rail, air, highway,

and waterway assets, the region is well prepared to take on the role, says Brandon Dennison, associate director, Wayne County Economic Development Authority.

Shippers in the region will also benefit from Norfolk Southern’s \$50-million investment in its Heartland Corridor, which raised tunnels to accommodate double-stacked railcars. Several major shippers have selected nearby locations to site their distribution centers, and the Authority is working on a foreign trade zone designation.

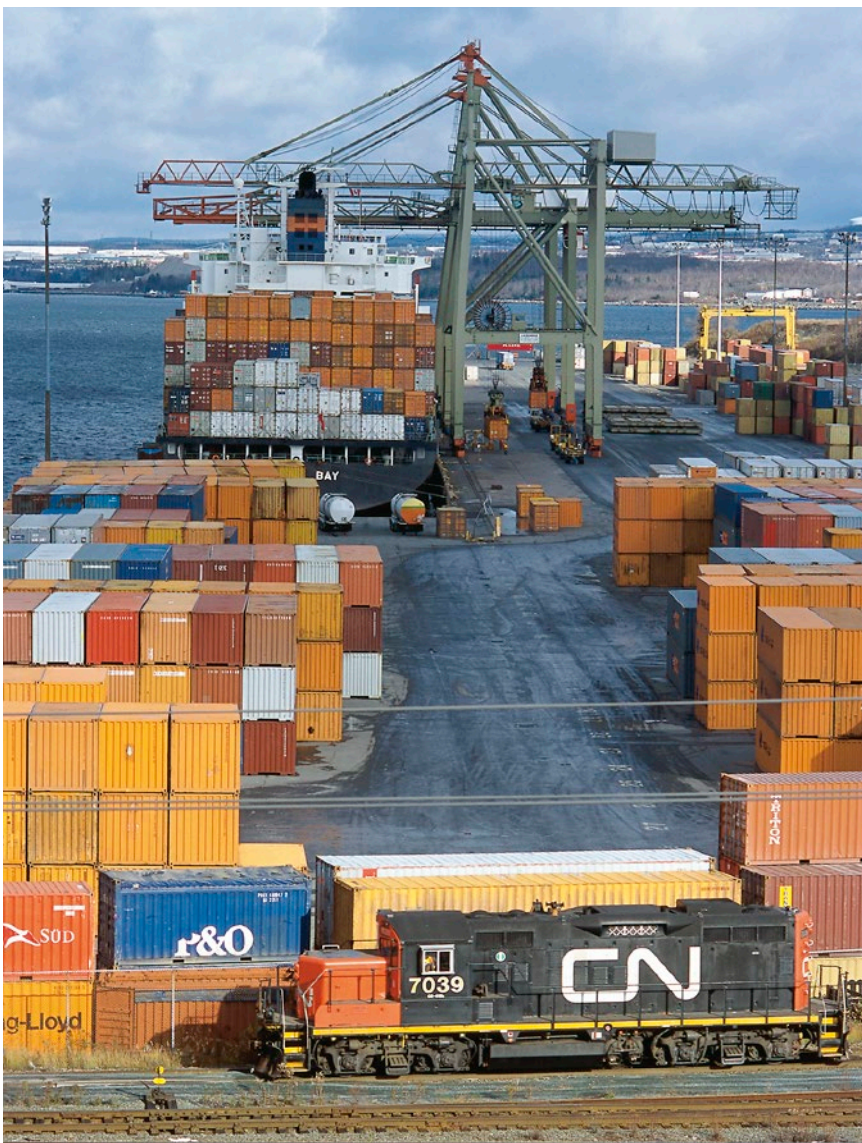
“This area offers huge potential for warehousing around the intermodal facility,” says Dennison. “Wayne County has been a well-kept secret, until now. Logistics managers are pleasantly surprised when they find out what the area offers.”

Its central location, which reaches more than half the U.S. population within a one-day drive, is just one reason shippers are looking at Wayne County. “On-demand, on-time delivery is what shippers are all about, and we’re located in the ideal place to take advantage of that,” Dennison says.

A favorable, low-cost business environment is also a big draw. West Virginia’s cost of living is 3.2 percent lower than the national average. And taxes are down: The state’s corporate net income tax rate was reduced from 8.5 percent to 7.6 percent in recent years, and its already reduced business franchise tax will be eliminated by 2015. The state also offers a package of incentives for businesses relocating to the area.

Wayne County ensures a strong supply of skilled workers through Mountwest Community and Technical College, and the Robert C. Byrd Institute for Advanced Flexible Manufacturing, complemented by Marshall University’s School of Business. Employee turnover is below the national average at 8.5 percent, and West Virginia, at 4.5 percent, is tied with New Hampshire for the third-lowest turnover rate among manufacturing industries.

“The Heartland-Gateway project provides extraordinary potential for improving efficiencies and reducing costs across the warehousing and distribution landscape of the Mid-Atlantic and central



CN maintains partnerships and supply chain agreements with every major port in Canada, providing intermodal service to all international destinations.

Appalachia,” says Don Perdue, executive director of the Wayne County Economic Development Authority.

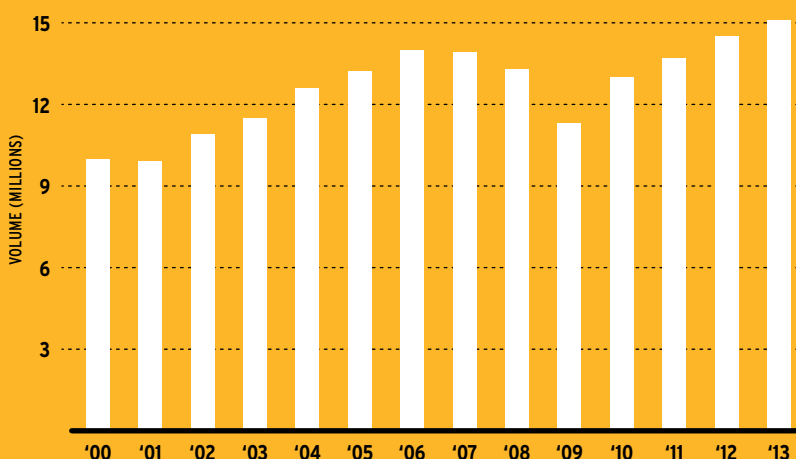
SHOVEL-READY SHELBY

When shippers settle on an ideal site for a new manufacturing or distribution facility to service their supply chain and their customers, they want to get it up and running quickly. Shelby County, Ind., just south-east of Indianapolis, is working to satisfy that need with two state-certified, shovel-ready industrial sites – an indication that the utilities are installed and ready for construction to commence. An independent site consultant is also engaged in certifying the sites so that they will, in turn, also be certified by CSX.

CSX has a spur from Indianapolis to Shelbyville, Ind., and a short line operates between there and Cincinnati. These railways support a number of local, foreign-owned automotive suppliers for whom rail is a priority, such as the Honda

TOTAL INTERMODAL LOADINGS 2000-2013

As intermodal volume continues to grow, access and proximity to intermodal and rail facilities play an important role in site selection.



Source: IANA Intermodal Market Trends & Statistics Report

Disasters Happen! How you handle them is what matters.

On May 22nd, an EF-5 tornado devastated nearly 1/3 of Joplin, Missouri

7,000 homes were destroyed

More than 500 businesses were leveled and 5,000 jobs were lost

107 miles of city streets were filled with 3 million cubic yards of debris

(That's enough debris to fill a football field end zone to end zone nearly as high as the Empire State Building)

Eleven public school facilities, including the high school, and one private school were lost

Before dawn on May 23rd, all streets were opened one lane for emergency services

Before midnight on May 24th all lanes were cleared

On May 26th the Business Recovery Center opened to help impacted businesses

More than 400 businesses have reopened their doors with more reopening every day

3,500 of the employees who "lost" their job remain on the payroll

All 3 million cubic yards of debris was removed by August 7th as scheduled

Schools started on time in temporary facilities that are the model for schools of tomorrow



For More Information
Kevin Welch, Director

Joplin Regional Partnership

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assembly plant less than 20 miles away in Greensburg.

“Shippers are overlooking a lot of opportunity in Indiana, especially in the central and southern parts of the state,” notes Harold Gutzwiller, manager, economic development and key accounts at Hoosier Energy, which provides power to the sites, and offers advice and incentives for energy efficiency. “These could be great distribution center sites, because they’re near and accessible to rail.”

Shelbyville is hoping to convince CSX to build a full intermodal facility in the area to support its growing industrial base. An intermodal facility could help local companies by enabling them to bring in more cargo via rail, as well as cargo traveling via barge to Cincinnati, then via rail to Shelby County.

A proposed intermodal facility would complement several other investments. The City of Shelbyville is constructing a new road connecting one current and two

proposed industrial parks to Interstate 74, which parallels the CSX line. The city is also considering expanding its small local airport.

In addition to Shelby County’s central location, other attractive features include a low cost of doing business, a ready workforce, and a business-friendly regulatory system and low-tax environment. Shelby County Development Corporation is partnering with a local junior college and local utilities to train workers for industrial jobs.

Packages of tax credits and training funds are also available. “Our city and county collaborate successfully, and that’s not something you see often,” says Dan Theobald, executive director of the Shelby County Development Corporation.

SHOW ME NEOSHO

Some shippers say the United States has a second four corners, where Missouri, Oklahoma, Kansas, and Arkansas come together. That easy access to four states—as

well as 70 million people within a one-day drive—is what has attracted shippers in consumer goods, pet nutrition, and custom machining to the Joplin and Neosho, Mo., region.

That popularity only promises to grow as the region develops an intermodal facility, expected to be complete within two years.

The area is already served by two Class I railways—Kansas City Southern and BNSF—as well as five major north-south and east-west highways, including I-49 and I-44. Two major inland waterways also intersect in Missouri, creating a confluence of modes in a central U.S. location.

About 50 trucking companies operate headquarters or major operations in the area, supported by two colleges with robust driver training programs. Those programs, combined with double-digit population growth, ensure a continuous flow of new drivers. Population growth and a preponderance of warehouses also guarantee a ready supply of workers to staff

WHAT’S DEVELOPING AT WATSON

The growth of intermodal transportation has outpaced the infrastructure investment required to support it. One value proposition of Watson Land Company, based in Carson, Calif., is that it has been steadily making strategic investments to support intermodal’s growing popularity with shippers.

Watson Land Company, which recently celebrated its centennial, develops, owns, and manages industrial properties throughout southern California. Watson Land Company has developed several million square feet of master-planned centers within four miles of the ports of Los Angeles and Long Beach, and

maintains a footprint that includes facilities in Carson/Rancho Dominguez, Chino, Apple Valley, Fontana, and Redlands, Calif.

The company recently leased a 553,963-square-foot industrial property to M. Block & Sons in Redlands. The building is a part of Watson Land Company’s Legacy Building Series, an initiative to develop and offer highly flexible, Class-A industrial facilities with distinctive architectural detail. The property will be used for warehousing, distribution, and managing third-party logistics.

Watson Land Company’s legacy extends back two

centuries to the Rancho San Pedro Spanish Land Grant. Today, the company is among the largest industrial developers in the nation.

Watson holds a Foreign Trade Zone (FTZ) designation on more than eight million square feet of its distribution buildings. The FTZ designation allows customers to significantly reduce operating costs through such methods as single weekly entry of containers, which reduces merchandise processing fees and duty deferral.

Watson Land Company affirmed its commitment to sustainable design by becoming the first developer

in southern California to design and construct speculative buildings in accordance with the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) guidelines.

Each LEED-certified building features design elements, materials, functionality, and construction procedures that reduce environmental impact, enhance energy efficiency, and reduce operating costs. Watson Land Company has completed construction on more than two million square feet of speculative industrial buildings designed for LEED certification.

manufacturing and distribution facilities.

Currently, companies such as Jarden Consumer Solutions and Missouri Walnut are moving a high volume of inbound and outbound intermodal containers from the area. New sources of such freight also are on the horizon.

UPCOMING UPGRADES

That volume promises to increase as the 500-acre Neosho Industrial Park introduces important upgrades. Business groups are working closely with railroads to create a service offering with strong appeal for intermodal shippers. The park will soon contain a 275-acre Foreign Trade Zone, a convenience for shippers who are also drawn to the area's low cost of doing business. The state enhances that competitiveness through Missouri Works, a package of incentives based on job creation and capital investment.

The Neosho/Joplin area's amenities, together with its central location, create an



Kansas City Southern serves the Joplin and Neosho, Mo., area, which also offers easy access to five major north-south and east-west highways, including I-49 and I-44.

ideal environment for intermodal shippers. "It's great to have access," says Mike Franks, executive director for economic development for the Neosho Area Business and Industrial Foundation Inc. "But better yet,

we have a low-cost point of access."

Shippers locating sites near rail intermodal facilities can optimize their use of all modes to create an effective and efficient supply chain network. ■



Wayne County Economic Development Authority, Inc.

The Heartland Intermodal Gateway at Prichard (HIG) will serve the container shipping needs of the mid-Atlantic region and points west. The Heartland Corridor which runs from Norfolk, Virginia to Chicago, Illinois, provides on-dock rail at the Ports of Virginia with double-stack clearance through southern West Virginia to Chicago and provides access to west coast ports and other ports in the Heartland of America. HIG will serve as a cargo-transfer station along the Norfolk Southern rail line. The facility will offer industrial and warehousing space, a modern and efficient freight container service and improved access to international rail lines.

The Heartland Corridor which runs from Norfolk, Virginia to Chicago, Illinois, provides on-dock rail at the Ports of Virginia with double-stack clearance through southern West Virginia to Chicago and provides access to west coast ports and other ports in the Heartland of America. HIG will serve as a cargo-transfer station along the Norfolk Southern rail line. The facility will offer industrial and warehousing space, a modern and efficient freight container service and improved access to international rail lines.



Why Wayne County, WV?

- * Provides for the increased flow of goods between the east coast, midwest and west coast
- * Increases efficiency for large shipments which saves time and money
- * Enhances the ability to compete and trade globally
- * Provides alternative shipping options for domestic markets
- * Offers environmentally friendly transportation options
- * Improves access to ports, satellite terminals and distribution centers
- * Reduces highway congestion and fuel consumption
- * 50-60 acres near I-64
- * 1.5 mil. Sq. ft. of available space

Don Perdue, Executive Director

wceda@suddenlinkmail.com



The Western Gate to the Mountain State

In 1963, the first Consumer Value Store (CVS) opened its doors in Lowell, Massachusetts.

Within a year, CVS had 17 stores throughout Massachusetts. Three years later, the company added pharmacies and expanded into Rhode Island. Today, CVS Caremark is the nation's number one pharmacy healthcare provider, with 7,600 CVS/pharmacy stores in the U.S. and Puerto Rico and a growing network of MinuteClinics.





Given its ever-changing line of products and growing network of clinics and store locations, it's not surprising that CVS/pharmacy's commitment to customer service has driven a steady succession of supply chain improvements. In addition to improving the CVS customer experience, these improvements have also reduced costs and increased operational efficiencies.

As Director of Transportation and Logistics Networks, Dennis Berard is responsible for the front end of the company's supply chain and overseeing its constantly evolving distribution network. "Providing the items and services customers need sets CVS/pharmacy stores apart," says Berard. "We don't take a cookie cutter approach to stocking stores. We constantly recalibrate our product mix and strategies based on what consumers in different markets want."

A dense network of stores, combined with a constantly changing product mix, puts pressure on the CVS distribution system, which must ensure that store shelves are replenished quickly. "When stores need new items," says Berard, "we respond with strategies that get products to market faster. The mix of products we move determines how we use equipment and engineer our supply chain."

A long-term partnership goes the distance

CVS reinforces its outbound distribution strategy by carefully selecting outside supplier-partner experts, like Ryder. This support includes financing, preventive maintenance, emergency roadside assistance, administrative support, insurance, fuel, and safety services. CVS has six private fleets and several dedicated fleets, including Ryder Dedicated™, which supplies 312 drivers, 248 tractors and 634 trailers.

The partnership with Ryder began in 1997 at CVS's Woonsocket, Rhode Island and Lumberton, New Jersey distribution centers. Ryder began providing CVS with dedicated transportation services: an alternative

AT A GLANCE

Challenge

Support expansion into new geographic markets and a changing product mix. Increase agility for volume trends and improve transportation network performance.

Solutions

Ryder Dedicated™ solution management expertise, fleet leverage, driver performance and safety support to help CVS deliver outstanding service.

Benefits

- ▶ *Improved on-time delivery to 99.1% for first stop and 98.8% for subsequent stops*
- ▶ *Reduced transportation costs by improving cube/trailer utilization, training drivers and optimizing routes and loads*
- ▶ *Lowered fuel costs by updating the fleet and reducing idle time and out-of-route miles*
- ▶ *Enhanced customer experience by delivering a diverse product mix to stores, including food, prescriptions, perishable and refrigerated items*
- ▶ *Accelerated deliveries with lift-gate trailers for pallet deliveries*
- ▶ *Expanded into new markets*
- ▶ *Improved safety compliance*

to a private fleet that combines vehicles, drivers, dispatch, transportation management and other value-added services to help companies like CVS be nimble, run lean and stay safe.

Today, CVS has 18 distribution centers. Ryder Dedicated™ operates at all of the Rhode Island, New Jersey, Michigan, Texas, Alabama, Florida, New York and Puerto Rico locations. Here, Ryder operates outbound tractor-trailers, delivers merchandise to stores, as well as doing merchandise pick ups and returns to distribution centers. Ryder also provides routing/scheduling and assistance in process development, store scheduling and equipment utilization.

The dedicated fleet helps CVS respond to a changing regulatory landscape and increasingly rigorous food safety, highway safety and prescription drug transportation requirements. "We've converted all of the southern fleets to refrigerated trailers," says Ryder Director of Customer Logistics, Ed Caulfield. "Once we only had refrigerated trailers in Texas. Now we have them in Alabama, Florida, New York and Puerto Rico. And we've added lift-gate trailers to streamline the delivery and unloading of pallets."

Ryder also helps CVS support its private fleets. Services include full-service truck leasing, preventive maintenance and repair, on-site maintenance and consulting services for nearly 600 vehicles. Ryder

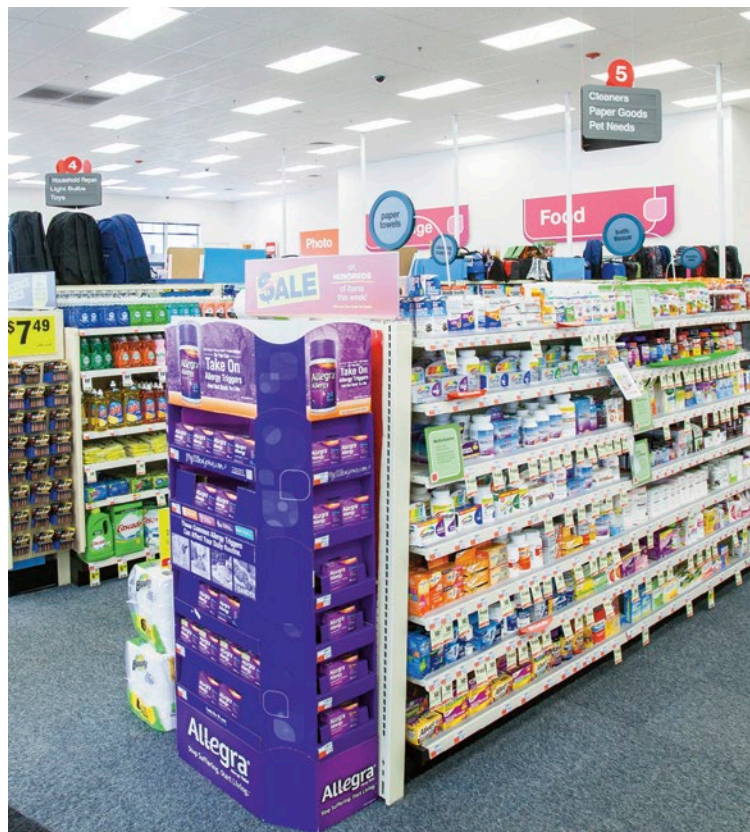
serves CVS distribution centers in South Carolina, Texas, Pennsylvania, Tennessee, Rhode Island, Hawaii and California.

As CVS grows, the partnership with Ryder grows

CVS/pharmacy's Senior Vice President of Logistics, Ron E. Link, leads the development of end-to-end logistics and supply chain strategies and initiatives. "We look at growth in terms of entering markets and international opportunities," he says. "But our primary focus is on our customers."

In addition to keeping up with growth and a changing product mix, the supply chain must accommodate constant changes in volume. "In recent years, our product mix has shifted to more bulk purchases. Whether it's water, paper towels or toilet paper," says Berard, "consumers are buying in bigger quantities."

Changes like these challenge CVS's warehousing, distribution and transportation networks. So does a store- and customer-centric approach, which creates unique delivery challenges. One is choosing the right size truck to deliver into urban areas and navigate narrow streets and driveways. Some cities limit deliveries to certain times of day to minimize congestion, so Ryder works with CVS to deliver within those parameters.



Expanding coverage into Hawaii and Puerto Rico

In the early days of the partnership, the focus was on extending the company's reach to most of the continental United States and expanding coverage into Puerto Rico.

"Expanding into Puerto Rico introduced a new set of challenges," Berard recalls. "Most of the business is serviced on a Direct-to-Store delivery model. Ryder helped us with freight, developing a model for store delivery and identifying space for break-bulk facilities."

Today, Ryder provides cross-docking services out of Puerto Rico, delivering loaded ocean containers from Orlando to Jacksonville. The containers are then shipped by ocean freighter to San Juan. Ryder picks up the ocean containers and cross-docks the freight into Ryder tractors and trailers for driver delivery to CVS stores around the island.

On-Time Delivery, Every Time

As the CVS-Ryder relationship evolves, the companies work together to establish key performance indicators. CVS requires that deliveries to the first store on a route be made within a 15-minute window of the scheduled delivery time. All subsequent deliveries must be delivered within a 30-minute window. "Our deliveries can't

"I never have to challenge Ryder to raise the bar. We actually challenge each other to get better and better results."

Ron Link, CVS/pharmacy,
Senior Vice President of Logistics





be late because we have store personnel assigned to unload the truck and stock store shelves," Berard says.

"Last year, we achieved a 98.6 percent on-time delivery rate for the first stop and 98 percent for subsequent stops for all of our fleets," says Berard. For Ryder Dedicated™ routes, the on-time delivery rate was even higher: 99.1 percent for first stops and 98.8 percent for subsequent stops.

Trained, professional drivers

Ryder Dedicated™ drivers play a key role in distributing CVS products to stores, assisting with all of the loads delivered to CVS stores. "The drivers are an integral part of our delivery process," says Berard, "especially when it comes to taking pallets off trailers and delivering them to store back rooms."

"The challenges we face today are very different than the ones we faced 10 years ago," states Ryder Director of Customer Logistics, Ed Caulfield. "Regulations are tighter and the driver shortage is more severe. There will always be logistics challenges. With CVS, we solve them together."

Ron Link agrees. "Ryder works with us on everything from managing DOT requirements to ensuring we have the right equipment, capacity and drivers to service our stores."

The right equipment for different markets

"From a transportation standpoint, we have to make sure we have the type of equipment we need to maintain product integrity, provide on-time delivery and navigate specific markets, whether it's refrigerated equipment for food, or straight trucks with the agility to maneuver in urban markets. The stores expect us at a certain time so the trucks have to be there on time. And we have to make sure we have the warehouse space and technology to grow and service new markets," says Berard.

Ryder Dedicated™ also provides a low-risk entry point to the benefits of alternative fuels. Leveraging Ryder's natural gas fleet and infrastructure, CVS leases two Compressed Natural Gas (CNG) vehicles to deliver cargo in the Los Angeles area.

The key to success: always challenging the status quo

"From a supply chain standpoint, we constantly challenge our current state," Berard notes. "As our business evolves, we re-examine our delivery model, equipment and practices to make sure they fit changing business and customer needs."

As food becomes a bigger part of the product mix, CVS operates more refrigerated equipment. To maximize space utilization and efficiency, CVS is putting more on outbound trailers. "Even though



we're driven to do things more cost-effectively," Berard notes, "we never lose sight of the importance of safety. We've put processes in place to keep our trucks and drivers safe. Ryder's safety program complements our own safety initiatives."

The road ahead

As for the future, CVS envisions a supply chain model that enables it to serve customers, capitalize on sales and keep its inventory in line. "We've made great strides with in-store and network inventory levels," says Berard. "The piece we're now solving is understanding what our customers want and making sure those items are on the shelves - while keeping inventory, transportation and logistics costs under control."

Together, CVS and Ryder continue to improve transportation efficiency, economics and customer service. "As we expand our coverage beyond North America," says Berard, "we're confident Ryder can help us support our transportation and supply chain goals."

About CVS/pharmacy

CVS/pharmacy, the retail division of CVS Caremark Corporation, is America's leading retail pharmacy with more than 7,600 CVS/pharmacy and Longs Drug stores in the U.S. CVS/pharmacy is reinventing the pharmacy to help people on their path to better health by providing the most

accessible and personalized expertise, both in its stores and online at CVS.com. General information about CVS/pharmacy and CVS Caremark is available at <http://info.cvscaremark.com>.



Ryder Supply Chain Solutions

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Ryder is a Fortune 500 provider of leading-edge transportation, logistics and supply chain management solutions.

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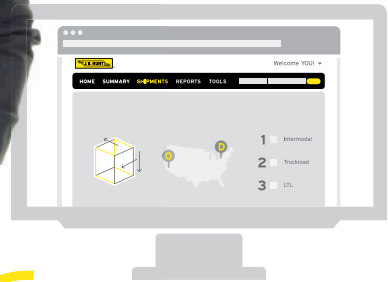
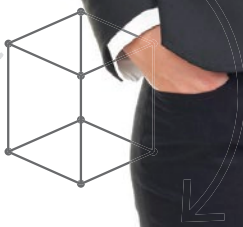
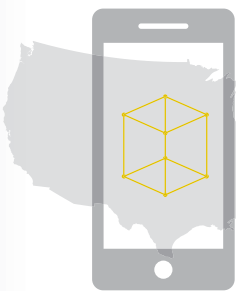
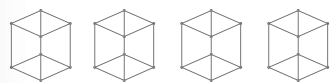
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BUYER'S GUIDE 2014

Transportation management systems (TMS) offer huge benefits to shippers, including improved shipment visibility, advanced reporting capabilities, and freight bill payment and auditing. But with so many products on the market, finding the right solution can be difficult.

To help you select the best option for your transportation management needs, *Inbound Logistics'* TMS Buyer's Guide offers this best-of-breed shortlist of some leading TMS providers and solutions.



BUYER'S GUIDE 2014

	VENDOR	PRODUCT	DESCRIPTION
H L	3Gtms Inc. Shelton, CT 3gtms.com	3G-TM	Optimizes rating, routing, tendering, track-and-trace, and settlement.
H L	Accellos Colorado Springs, CO accellos.com	Prophesy Transportation Software	Builds loads, plans routes, monitors in-transit progress, and executes initial and settlement paperwork.
H	Acuitive Solutions Charlotte, NC acuitivesolutions.com	Acuitive TMS	Facilitates end-to-end collaboration during procurement negotiations and after the process with auditing capabilities. Manages, analyzes, and interprets key metrics including rates and rate history, routing patterns, audited invoices, contract terms, Sarbanes-Oxley compliance, and shipment details.
H L	Agile Network Chesterfield, MO agile-network.com	Agile Elite Suite	Evaluates multiple carrier options for accurate delivery time, date commitments, and delivery charge information; automates medium- to high-volume multi-carrier shipment processing from multiple locations.
H	Agistix Inc. San Mateo, CA agistix.com	Agistix	Provides real-time global visibility and execution, order management, rating, booking, reporting, document creation, and tracking for all transportation modes and carriers, and international, domestic, inbound, outbound, and third-party shipments.
H	Aljex Software Middlesex, NJ aljex.com	Aljex Vision	Automates shipment execution with least-cost routing, EDI, document imaging, integrated emailing and faxing, and burst communication. Suitable for use by manufacturers, retailers, 3PLs, and intermodal and asset-based carriers.
H L	Amber Road East Rutherford, NJ amberroad.com	Transportation Management Solution	Automates key transportation processes such as carrier selection and booking, contract and rate management, data quality management, freight audit, order and shipment visibility, and performance management reporting.
L	Argos Software Fresno, CA argossoftware.com	ABECAS Insight	Manages order entry, dispatching, resource (truck, trailer, driver) tracking, messaging, trip building and control, freight billing, and settlements processing for drivers and contractors/outside carriers.
H	BestTransport Columbus, OH besttransport.com	BestShippers TMS	Enables shippers to optimize loads, execute advanced tendering rules (both inbound and outbound), track shipments, and pay freight bills. Provides immediate and accurate visibility into every transaction.
H	CargoSmart Limited San Jose, CA cargosmart.com	CargoSmart Transportation Management	Provides shipment management solutions that benchmark ocean carriers' sailing schedules, performance, and contracts, and leverage big data for greater visibility and live exception management.

	VENDOR	PRODUCT	DESCRIPTION
H	Cerasis Inc. Eagan, MN cerasis.com	Cerasis Rater	Offers Web-based rating of multiple LTL and small package freight carriers. Includes freight accounting, document storage, analytics, and integration capabilities.
H	Cheetah Software Systems Westlake Village, CA cheetah.com	Cheetah Freight, Cheetah Delivery	Provides optimized routing, dynamic dispatch, and real-time tracking information to LTL companies. Modular, integrated system. GPS-enabled supply chain visibility. Instant proof of delivery.
H	Cirrus Palm Harbor, FL cirrustms.com	Cirrus TMS	Streamlines freight operations for Fortune 500 companies and businesses of all sizes. Delivers real-time rating and shipping information, accounting software integration, paperwork generation (such as bills of lading), and performance analytics.
H	Cloud Logistics West Palm Beach, FL gocloudlogistics.com	Cloud Logistics TMS	Tracks shipments with global visibility and event management across flexible workflows between shippers, receivers, and logistics service providers. Manages carrier contracts, books loads, schedules dock appointments, and auto-pays freight.
H L	Codeworks Columbus, OH ctcodeworks.com	Traffic	Allows shippers to identify loads and consolidate freight to minimize costs, review shipment savings before consolidation, find carriers with the lowest shipping costs or best margin, and use stored route histories to choose the most fuel-efficient routes.
H L	CT Logistics Cleveland, OH ctlogistics.com	FreitRater SQL	Provides rate quotes from multiple carriers in all modes; automated shipment execution; real-time status information; reporting, searching, and data mining.
H	CTSI-Global Memphis, TN ctsi-global.com	CTSI-Global Transportation Management System	Manages transportation networks to control orders, optimize loads, select carriers for all modes, tender shipments, track progress, manage claims, pay invoices, and report results.
L	Datex Clearwater, FL datexcorp.com	Express TMS	Shippers can manage drivers and assign them to routes; view real-time shipment tracking information; export routes to handheld devices; and import route status and customer signatures from handheld devices.
H L	Descartes Waterloo, ON descartes.com	Descartes Transportation Management	Helps logistics managers, shippers, and third parties simultaneously evaluate transportation alternatives to find the most efficient shipping method. Manages contract carriers from shipment planning through execution and settlement.
H	Elemica Exton, PA elemica.com	Elemica Logistics Management	Supports complete process of order-to-shipment planning, booking, execution and settlement, visibility, monitoring, alerts, exception management, connectivity, and collaboration.



BUYER'S GUIDE 2014

	VENDOR	PRODUCT	DESCRIPTION
H	eShip Global Dallas, TX eshipglobal.com	eShipGlobal TMS	Handles every aspect of the transportation lifecycle, including strategic sourcing, rate quotes, transportation execution, freight audit, and payment settlement.
H	Fortigo Austin, TX fortigo.com	On-Demand TMS	Automates, optimizes, and audits logistics processes across the supply chain. Supplies one system of record for logistics across multiple sites, and interfaces with enterprise resource planning and other supply chain management solutions.
H	Freight Management Inc. Glendale Heights, IL gofmi.com	My Freight Manager	Acts as a virtual shipping portal for quoting, booking, and tracking all modes of freight. Easily integrates with ERP, WMS, and other operating systems. Accommodates freight forwarders, shippers, and inbound programs of all sizes.
H	Freightgate Huntington Beach, CA freightgate.com	Freightgate Universe	Allows shippers to consolidate orders, build loads, optimize routes, maintain end-to-end visibility, collaborate with other stakeholders, and audit and pay freight bills.
H	GT Nexus Oakland, CA gtnexus.com	GT Nexus Transportation Management	Capabilities include real-time shipment/item-level visibility; ocean, air, and truck spend management; freight audit; shipment planning; consolidation management; and shipment execution.
H	HA Advantage Pleasanton, CA haadvantage.com	AdvantageTMS	Manages automated rate shopping, shipment tracking, margin acceleration, freight bill audit and payment, and reporting.
H	HighJump Software Minneapolis, MN highjump.com	Transportation Management	Provides international multimodal shipment optimization, carrier and rate management, vendor compliance, vendor tracking, proof-of-delivery, and claims and reporting.
H	IBM Armonk, NY ibm.com	IBM Sterling TMS	Enables shippers and suppliers to collaborate; provides load planning, tendering, shipment execution and tracking, freight payment, and advanced analytics.
H	Infor New York, NY infor.com	SHIPLOGIX	Provides transportation planning, electronic load tender, shipment rate engine, order visibility, and enterprise integration.
H L	InMotion Global St. Petersburg, FL thefreetms.com	InMotion Global TMS	Offers routing and optimization, lane rate management, Web-based load tendering, real-time shipment location/status visibility, reporting, and a shipper/carrier Web portal.

	VENDOR	PRODUCT	DESCRIPTION
H L	INSIGHT Inc. Manassas, VA insightoutsmart.com	Transportation Strategy Tools	Routes orders by determining what combination of modes, carriers, and vehicles provides the lowest overall transportation cost.
H	Int'l Asset Systems (IAS) Oakland, CA interasset.com	IAS Dispatch	Manages drayage assignments, appointment times, amendments, invoicing, visibility, rates, optimization, and business intelligence.
H L	JDA Software Group Scottsdale, AZ jda.com	JDA Transportation Manager	Covers the entire closed loop transportation process – from strategic transportation sourcing, planning, and optimization to shipment visibility, payment, and performance analysis.
H	Kewill Chelmsford, MA kewill.com	Kewill MOVE Transport	Manages air, sea, rail, and road requirements for full load, pallet, and parcel deliveries on a local, national, regional, or global scale.
H	LeanLogistics Holland, MI leanlogistics.com	LeanTMS	Delivers complete transportation planning, execution, settlement, and procurement, as well as supply chain visibility and business intelligence to improve business processes, increase efficiency, and reduce costs.
H	LOG-NET Red Bank, NJ log-net.com	LOG-NET Transportation Management	Monitors events and status, filtering results to view only shipments deviating from trip plans; generates forwarder and carrier rating and performance reporting; performs appointment scheduling, contract fulfillment, route and rate management, and freight audit.
H L	Logility Atlanta, GA logility.com	Voyager Transportation Planning & Management	Automates multi-modal shipment planning, execution, and freight accounting. Supports automated, unattended operation by monitoring ongoing activities and providing real-time alerts to potential problems. Analyzes productivity using key performance indicators to provide operations reports.
H	Logistics Management Solutions (LMS) St. Louis, MO lmslogistics.com	TOTAL	Supplies complete transportation management, including rating, freight optimization, load tendering, shipment tracking, and business intelligence.
H	Logisuite Doral, FL logisuite.com	Logisuite Freight IQ	Processes pickup and delivery operations from beginning to end, and dispatches drivers or carriers. Provides real-time visibility, online quotes, and access to shipping documents.
H	M33 Integrated Solutions Greenville, SC m33integrated.com	Blackbeard	Manages the lifecycle of an order, from rate quoting through freight bill payment and reporting. Delivers accurate carrier rating and rate shopping, proper carrier execution for increased cost reduction, and real-time shipment visibility.



BUYER'S GUIDE 2014

	VENDOR	PRODUCT	DESCRIPTION
H	Made4net Hackensack, NJ made4net.com	TransportExpert	Supports and optimizes carrier selection; manages freight rates and carrier contracts; generates shipment documents; electronically communicates transportation needs to carriers; and provides real-time, exception-based shipment status visibility.
H L	Magaya Corporation Miami, FL magaya.com	Magaya Cargo System	Creates import and export consolidations for air, ocean, and ground shipments; queries and compares carrier rates; prints labels to ID and track all packages; automates tariffs and billing; and receives proof of delivery, online shipment updates, and package tracking data.
H L	Manhattan Associates Atlanta, GA manh.com	Transportation Management System	Provides a global view of transportation across all modes – inbound or outbound – from bidding to billing, to reduce costs, reroute around trouble spots, and coordinate deliveries precisely.
L	McLeod Software Birmingham, AL mcleodsoftware.com	Freight Management Solutions	Provides tools for bid procurement, less-than-truckload/truckload mode optimization, and load execution.
H L	MercuryGate International Cary, NC mercurygate.com	MercuryGate TMS	Delivers integrated multimodal TMS, allowing global shippers and service providers to optimize and execute loads. Analytics and a workflow engine automate processes for maximum efficiency.
H	Navigate Eagan, MN navigate.com	Navigate TMS	Manages contracts, rate quoting, carrier status updates, and ad hoc reporting.
H L	Next Generation Logistics Inverness, IL nextgeneration.com	FreightMaster TMS	Schedules inbound and outbound dock appointments, and offers track-and-trace capabilities.
H L	NTE Oakbrook Terrace, IL nte.com	NTE Transportation Management	Provides shipment planning, optimization, routing guide execution, financial settlement, track-and-trace capabilities, and alerting and reporting options.
H L	Nulogx Inc. Toronto, ON nulogx.com	Nulogx Transportation Manager	Supports all activities necessary to manage the full lifecycle of the transportation process, including load optimization, carrier communication, and freight bill audit, payment, and analytics.
H	Odyssey Logistics & Tech. Danbury, CT odysseylogistics.com	WIN - Web Integrated Network	Offers browser-based technology for daily and/or spot freight quotes and multi-mode quote comparisons, shipment tendering, monitoring and reporting; customizable dashboards; and master data management.

	VENDOR	PRODUCT	DESCRIPTION
H	One Network Enterprises Dallas, TX onenetwork.com	Intelligent Logistics TMS	Integrates transportation planning and optimization, execution, and financial reconciliation, providing comprehensive visibility and control across the entire transportation network.
H L	Oracle Redwood Shores, CA oracle.com	Oracle Transportation Management	Provides carrier rate bidding and management, shipment planning and execution, freight billing and claims, visibility, and key performance indicators.
H L	Precision Software Lisle, IL precisionsoftware.com	Precision Transportation Management	Streamlines transportation planning and execution, manages asset utilization, automates business processes, and handles freight payments. Users can rate, route, produce labels, and manage service levels for any shipment mode.
H	RateLinx Madison, WI ratelinx.com	ShipLinx	Provides rates and shipment execution using multiple carriers and rate bases for all modes; tracks real-time key performance indicators; generates reports and status updates.
H L	Retalix Plano, TX retalix.com	Transportation Optimization & Management	Integrates and manages all aspects of the transportation process, including inbound/outbound optimization, yard management, and dock scheduling.
H	Riege Software Georgetown, CT riege.com	Scope	Provides a comprehensive multi-modal forwarding transportation management system for complete operation, management, communications, supply chain visibility, and regulatory compliance management and documentation.
H	RMI – GE Transportation Atlanta, GA rmiondemand.com	ShipperConnect	Handles multimodal transportation planning, execution, terminal operations, carrier settlement, and exception alerts while providing shipment visibility across all carriers and modes.
H L	Roadnet Technologies Towson, MD roadnet.com	Roadnet Transportation Suite	Enables organizations with fleets and mobile resources to develop optimal route plans and track them in real time, then use this information to compare actual vs. planned data.
L	Robocom Systems International Farmingdale, NY robocom.com	Robocom TMS	Manages freight rating, billing, and auditing; and tracks the location of drivers, captures proof-of-delivery data, and provides dispatchers the ability to insert pickup stops into delivery runs.
L	Royal 4 Systems Long Beach, CA royal4.com	Royal 4 TMS Suite	Automates carrier communications, including contract negotiation, load tendering, invoice processing, and payment approvals. Builds loads, groups orders, and plans routes to maximize asset utilization, and manages carrier selection and compliance.

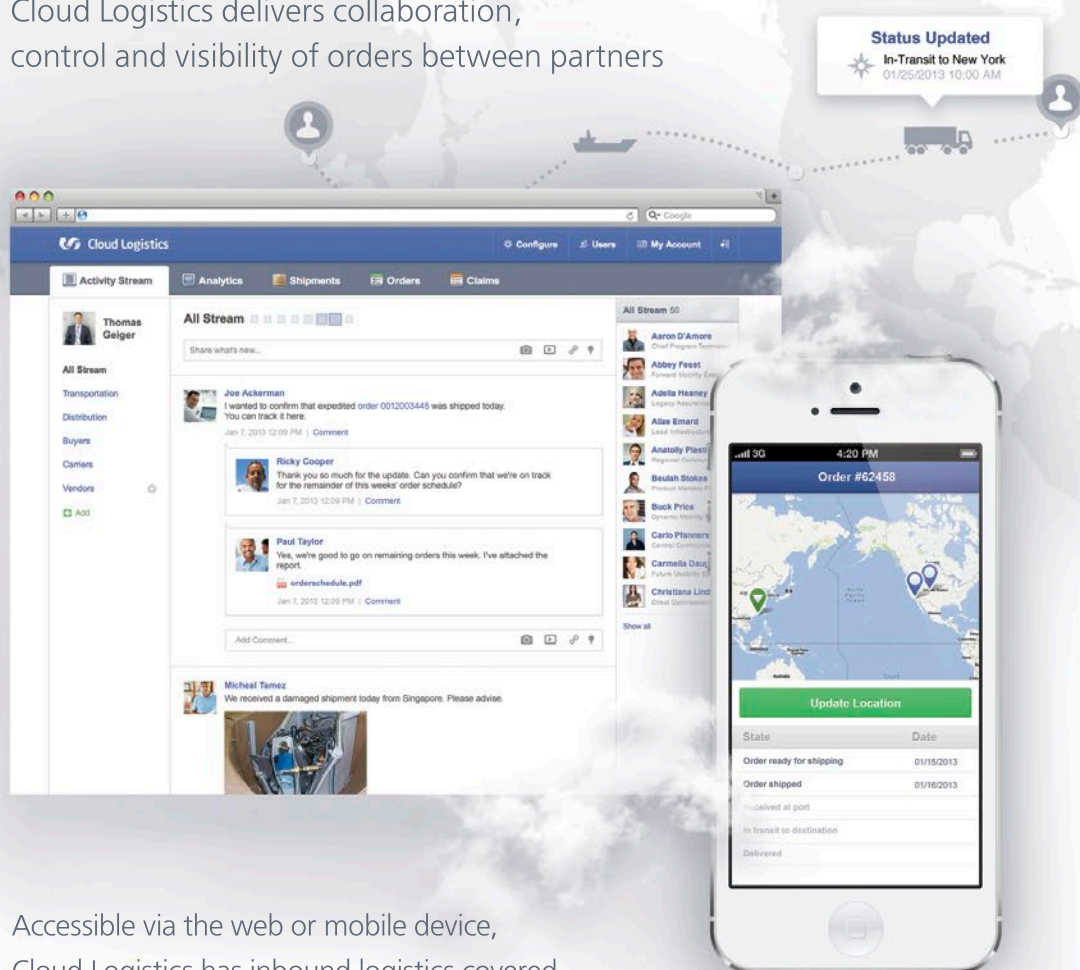


	VENDOR	PRODUCT	DESCRIPTION
L	SAP Newton Square, PA sap.com	mySAP Supply Chain Management	Offers transportation planning and shipment completion capabilities, shipment cost calculation and settlement, freight billing, and service agent selection.
H L	Supply Vision Chicago, IL supply-vision.com	Supply Vision TMS	Offers customizable shipper and logistics provider visibility tools with integrated warehouse management, document imaging, and intelligent rate shopping.
H L	TECSYS Inc. New York, NY tecsys.com	TECSYS TMS	Automates and optimizes small package and LTL shipment rating, routing, manifesting, tracking, and post-shipment analysis.
H	TMSforce Raleigh, NC tmsforce.com	TMSforce TMS	Covers the transportation lifecycle, including transport instructions; optimizing consignments using routes and rates; carrier shipping instructions and fleet dispatch; tracking shipments to settlement; control tower, visibility, and key performance indicators.
H L	TMW Systems Inc. Mayfield Heights, OH tmwsystems.com	TMWSuite	Integrates transportation execution with customer service, sales, dispatch, carrier, driver and asset management, settlement, finance, and business intelligence.
L	Trans-i Technologies Fort Lauderdale, FL trans-i.com	TranSHIP	Manages day-to-day shipping processes including quoting, bookings, documentation, and equipment control.
H L	TransportGistics Bohemia, NY transportgistics.com	TGI: TMS	Features shipment rating, bidding, planning, execution and visibility, tariff management, inbound and outbound, multimodal management, freight audit and payment, analysis, and data mining.
H	TransWorks Fort Wayne, IN trnswrks.com	TransWorks TMS	Automates transportation operations such as carrier and rate management, appointment scheduling, and freight settlement.
H	UltraShipTMS Fair Lawn, NJ ultrashiptms.com	UltraShipTMS	Gives logistics managers total network visibility and control over inbound and outbound transportation, ensuring optimal procurement, execution, and reporting.
H	Wolters Kluwer Transport New York, NY transwide.com	Transwide TMS	Offers full-cycle transportation management, including carrier selection, fleet planning and optimization, load tendering, appointment scheduling, event notification, freight bill settlement, KPI reporting, and integration services.



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THE 3PL ALTERNATIVE

Shippers may be able to gain access to transportation management system functions through their third-party logistics (3PL) provider. Here's a sample of some 3PLs offering TMS, either as a standalone option or part of the outsourced transportation service.

3PL	PRODUCT	DESCRIPTION
BlueGrace Logistics Riverview, FL mybluegrace.com	BlueShip TMS	Allows users to customize their transportation process, providing functions such as rating, routing, tracking, and reporting.
Echo Global Logistics Chicago, IL echo.com	ETM	Offers routing guide management, automated load entry, tendering and acceptance, load visibility, customized reporting, and analytics.
Exel Westerville, OH exel.com	Transportation Management System	Configured and deployed to customer specifications to manage transportation processes.
J.B. Hunt Lowell, AR jbhunt.com	J.B. Hunt 360	Lets users select shipment mode with complete control over LTL consolidation and optimization, allows online shipment tendering, provides data and analytics in a simple dashboard.
Jacobson Companies Des Moines, IA jacobsonco.com	Logistics Integrated Network Collaboration System	Offers access to shipment information to enhance order visibility and product flow throughout the supply chain.
LeSaint Logistics Romeoville, IL lesaint.com	TransTech TMS	Gives shippers visibility to shipping costs and activities.
Menlo Worldwide Logistics San Mateo, CA con-way.com	MenloTMS	Executes a full menu of transactional transportation functions across all modes.
SEKO Itasca, IL sekologistics.com	SEKO Transportation Management System	Automatically audits invoices, reports exceptions, and generates real-time track-and-trace information for international and domestic shipments.
TMC, a division of C.H. Robinson Chicago, IL mytmc.com	Managed TMS	Features procurement software, mode/route optimization, shipment tender, rate assignment, freight payment, yard and dock management, appointment scheduling, business intelligence, and global language/currency capabilities.
Transplace Frisco, TX transplace.com	Transplace Transportation Management System	Automates order management, shipment optimization, shipment tracking, and overall performance. Enables route and mode selection, load consolidation, asset utilization, and reporting.
Trinity Logistics Seaford, DE trinitylogistics.com	Trinity Logistics TMS	Offers real-time access to multi-modal rates, status updates, invoicing, and reporting while automating daily operations through integration with multiple platforms.
Werner Enterprises Omaha, NE werner.com	SMART	Delivers shipment validation, visibility, and optimization, and facilitates comprehensive data collection.

One key step to finding answers to any logistics, supply chain, or technology challenge is knowing the right questions to ask.

Inbound Logistics assembled a team of supply chain and logistics technology leaders, and asked for their perspectives on the important logistics challenges and opportunities impacting your business.

More importantly, these logistics thought leaders can give you guidance when considering improvements to your business processes.

THOUGHT LEADERS

110 **NICHOLAS CARRETTA**
President, UltraShipTMS

111 **KERRY LOUDENBACK**
Vice President, Sales, TransportGistics Inc.

112 **TOM KROSWEK**
Senior Director of Supply Chain
Excellence, Ryder Supply Chain Services
(A division of Ryder System Inc.)

The Best of Both Worlds: The Benefits of TMS With Integrated Fleet Management Tools

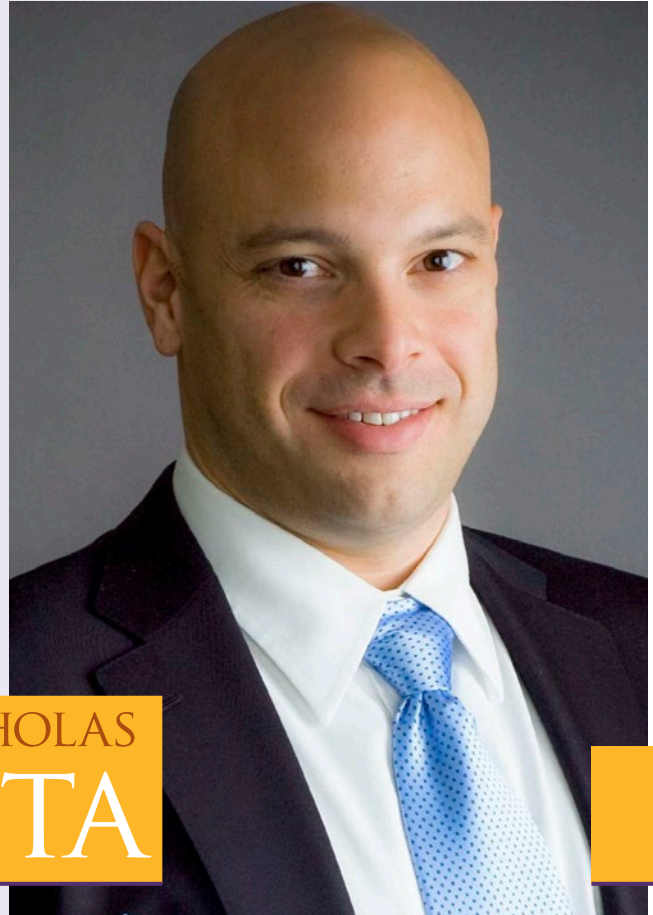
Q: With transportation management systems (TMS) solutions achieving maturity as a technology, what will be the next innovation in transportation automation?

A: The continually tightening trucking capacity in North America is prompting shippers to dramatically increase their use of private and dedicated fleets.

Adding to this dynamic, the Federal Motor Carrier Safety Administration's mandate to include electronic logs (e-logs) in every tractor in the United States makes these technical upgrades necessary for even the smallest private fleets. Managing fleets alongside common carriers within a TMS becomes the next logical step.

Q: Do shippers managing private fleets need to invest in both fleet management technology and TMS solutions?

A: Understandably, many shippers are reluctant to source, integrate, train workers on, and maintain two disparate systems—a TMS for common carrier



NICHOLAS

President
UltraShipTMS

CARRETTA

movements and a fleet management tool. As a result, there is significant unmet demand for TMS solutions that integrate fleet management tools.

Having fleet management capabilities within a TMS means transportation planners can make real-time decisions about whether to use common carrier or fleet resources for any given load. The information is all neatly catalogued in a single repository, which is particularly useful for keeping tight controls over financial reporting.

Q: Are there strategic benefits to using a TMS with integrated fleet management capabilities?

A: Absolutely! Not only does maintaining a private fleet ease capacity concerns, but it also provides additional options for making the most cost-effective shipping choices. Having private fleet tools enmeshed with

the TMS provides transportation managers all the information they require on one screen, which facilitates weighing service versus cost in real time when choosing between common or private/dedicated carriers.

Moreover, including robust private fleet management features within TMS has positive ramifications in terms of ROI on automation and optimization technologies. Having a single tool to manage both common carriers and private or dedicated fleets eliminates the redundant expenses that come with implementing a separate solution for each. Plus, users avoid doubling the costs associated with training, support, and maintenance for two solutions.

UltraShipTMS | 800-731-7512
sales@ultrashiptms.com | www.ultrashiptms.com

Inbound Logistics: A Grassroots Revolution

Q: Many companies neglect their inbound supply chain operations in favor of their outbound supply chain. Why is that?

A: Senior executives are more attuned to customer needs, and, in turn, the outbound, customer-facing supply chain. Its gravity naturally pulls their attention, and, as a result, policies and tactics abound for outbound material flow. This results in hidden margin-draining activities for half of the enterprise's supply chain.

Failure to adequately incorporate policies and controls for the inbound supply chain can not only adversely affect profit margins, but may also impact supplier relations, depending on the level of non-compliance.

Q: How can logistics managers raise inbound operations visibility and awareness of its cost impact?

A: It takes a grassroots philosophy—a bottom-up view of the supply chain. Operations and transportation supervisors, managers, and directors are closer to the inbound supply chain's non-value-add activities, and see firsthand the effect non-compliance has on the business. Staff members must be groomed to not only recognize these opportunities, but also receive the CFO's support to properly articulate the fiscal impact to the business.

Mature businesses make provisions to identify and resolve this problem through various methodologies such as Lean, Kaizen, or Six Sigma efforts. Regardless of the mechanism, companies must establish a process for properly identifying issues and articulating cost exposure so senior leadership can determine a course of action.

Q: Once businesses identify opportunities, how can they achieve efficiency and reduce costs?

A: Each organization will have its own approach and remedy to drive optimization, but for the inbound supply chain, the following guiding principles serve as best practices:

- Establish a supplier compliance strategy. Create and communicate policies and tactical instructions for suppliers and vendors on how to do business with your company. This removes ambiguity, and creates an environment for suppliers to work efficiently with you.

- Align purchasing agreements and vendor contracts with your policies and instructions. This communicates the importance of compliance, and will facilitate responding to non-compliance.

- Ensure departments within the enterprise are not working at cross purposes. Take a global view of material movement to align internal departments' goals and key performance indicators to meet the organization's overall objectives.

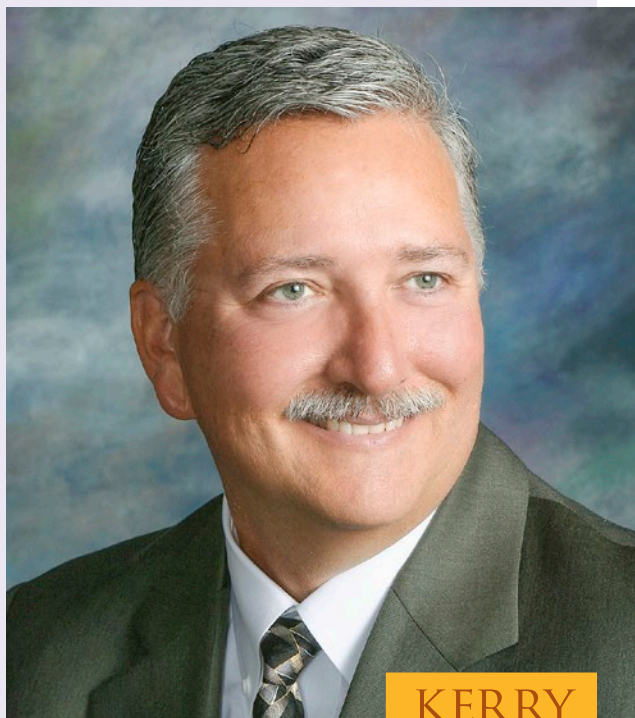
- Deploy tools to measure, monitor, and report on activities.

- Determine the course of action for addressing non-compliance, articulate it in the organization's policies, and communicate it to the supplier community.

- Establish supplier scorecards to measure improvement and monitor for additional aspects of the customer/vendor relationship you can improve.

In the end, the company with the lowest-cost supply chain will dominate its market. Can you afford to ignore half of your supply chain?

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KERRY

Vice President, Sales
TransportGistics Inc.

LOUDENBACK

Understanding the Auto Aftermarket Supply Chain

Q: What are some trends in the automotive aftermarket supply chain?

A: One ongoing development is suppliers are increasing their ship-direct activity. They are shipping parts directly to the dealer, or they may ship to a primary distribution center or field DC, bypassing the national distribution center.



TOM

KROSWEK

Senior Director of Supply Chain Excellence
Ryder Supply Chain Services (A division of Ryder System Inc.)

Establishing high-velocity distribution centers represents a third auto aftermarket trend. High-velocity DCs ship original equipment manufacturer (OEM) parts every day to most or all of the automaker's dealerships. Some smaller auto brands ship less frequently, typically delivering service parts two or three times weekly to the dealer.

Using high-velocity centers—either their own facilities, or ones operated by third parties—allows companies that once delivered two or three times weekly to serve customers five times per week. This approach could raise the level of inventory on hand, but if companies strategically focus on turns and inventory placement, they may not have to increase the amount of inventory in the system—they can just place it closer to customers.

Q: What challenges does the auto aftermarket pose?

A: It's easy to focus on assembly plant needs, but dealer needs are just as critical. Making more frequent deliveries to keep up with service demands raises the challenges of determining where to place the inventory, and managing the associated transportation costs, including identifying opportunities to reduce them.

Sharing the network can help. In many cities, most of the car dealerships are located in the same area. There's often opportunity for suppliers to share distribution networks and improve service to dealers—as well as keep their transportation costs in check. OEMs generate

This approach benefits the shipper during a surge in demand, because the inventory is available throughout the network, so the supplier can quickly distribute it where it is needed.


Another supply chain trend in the automotive aftermarket is same-day delivery. Traditionally, dealers place their orders late in the afternoon on the day before delivery. But today, suppliers place high-velocity parts in various select locations, allowing them to ship to dealers in multiple daily deliveries. Dealerships can then provide much faster service to their customers—repairs that once took two or three days, for example, can now be completed within 24 hours. This strategy is prevalent in premium auto brands, but is spreading to more mainline brands as well.

about half of their profit from aftermarket service parts, so serving these dealers is vital. Being able to deliver faster than the competition makes all the difference.

Q: What should auto OEMs look for in an aftermarket service provider?

A: In addition to transportation capabilities, inventory and order management are crucial. The right service provider can help suppliers identify service goals and determine what it will take to achieve them, as well as decide how much inventory to hold, where to locate it, and what fill rates should be.

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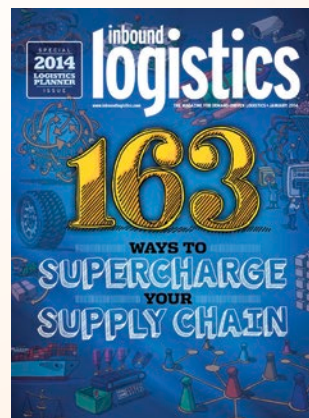
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ICC=inventory carrying costs C=capital T=taxes I=insurance W=warehouse costs X=shrinkage S=scrap O=obsolescence costs R=recovery

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STACK, STORE & TRANSPORT: THE INDISPENSABLE PALLET

They may be the simplest equipment in the warehouse, but pallets play an integral role in logistics operations. Just try to manage your supply chain without them.

If asked to name their materials handling MVP, many warehouse managers might cite a sophisticated sortation system or pick-to-light solution. Few would think to praise the humble pallet—but just try to run a consumer goods, food and beverage, or other typical supply chain without them.

Pallets are a vital piece of warehouse equipment for storing and moving products. And while they may seem simple, pallets come in a range of shapes, sizes, and materials. In the past, cost was often a primary consideration for businesses choosing pallets. But today, shippers are evaluating additional factors. Pallet type and quality can significantly impact safety, loading and unloading time, and product quality.

Companies that use pallet systems strategically can reduce transport costs and promote supply chain efficiency. Conversely, the wrong pallet choice can translate to distribution and delivery slowdowns. To avoid that problem, businesses need to ensure they choose the type of pallet best suited to their operations.

MATERIAL ISSUES

In some industries, pallet choice depends on the product. For example, the food and beverage, electronics, and pharmaceutical industries often have specific shipping requirements. Pallet type for these products can carry greater importance because of the emphasis on sanitation, consistency, and safety.

Another primary consideration is the pallet material. Wood is the most traditional type of pallet, and the most popular. Less expensive than plastic or aluminum, wood pallets are strong and durable, and handle heavy loads well. The downside is wood pallets can require special heat treatment, fumigation, or fire-retardant applications for certain shipment types or for international transportation.

“Unlike plastic, wood is all-natural, fully repairable, recyclable, and biodegradable,” says Adrian Potgieter, senior vice president of sales for Irvington, N.Y.-based PECO Pallet. “PECO’s sturdy wood block pallets are built from high-quality #2 grade Douglas fir and Southern

yellow pine lumber sustainably forested in North America.”

No chemical treatments or hazardous materials are used on PECO pallets, and all retired materials are recycled into mulch, bark, or livestock bedding. In addition, PECO’s wood block pallets can hold up to 2,800 pounds, can be safely stacked in overhead racks, and don’t slip in refrigerated areas.

JUMP INTO THE POOL PARTY

Wood block pallets are stronger and more durable than conventional stringer pallets. PECO Pallet maintains a large pool of reusable, four-way, wood block pallets that are leased to manufacturers and retailers throughout North America.

“Renting block pallets can offer a number of advantages over purchasing single-use stringer pallets, such as less hassle managing pallet inventory, fewer distributor rejections, less risk to people and products, and improved environmental sustainability,” says Potgieter. “All of these factors can add up to savings.”

To maintain quality and reduce customer costs, participants in PECO’s pallet program ship only to authorized distributors who also participate. The distributor



Many shippers choose plastic pallets such as those provided by ORBIS because they are reusable, lightweight, and recyclable.

or retailer notifies PECO when pallets are ready to be picked up, then a carrier returns the pallets to the depot to be cleaned and inspected, and repaired as needed.

Many big-box retailers such as Costco and Walmart specify that partners participate in a leased-pallet pool. To get their products into these stores, manufacturers

and suppliers must use four-way block style pallets.

Offering their own unique advantages, plastic pallets have been gaining in popularity during the past several years.

“Reasons for choosing plastic pallets over wood include reusability, light weight, and recyclability,” says Curt Most, global sales manager for Oconomowoc, Wis.-based reusable packaging company ORBIS Corporation. “All the plastic pallets we offer are recyclable. Broken plastic pallets can be ground up and re-used to make new pallets, rather than going to a landfill.”

While plastic pallets cost significantly more than their wood counterparts, they offer durability and cost-per-trip advantages.

“When companies choose plastic pallets, it’s no longer a commodity, it’s an investment,” says Most. “Instead of renting an \$8 wood pallet, they own a \$50 plastic pallet. But it will last for several years, as opposed to several trips.”

FANTASTIC PLASTIC

Plastic pallets also tend to cause fewer warehouse handling injuries, because they are free of splinters and nails. Plastic pallets also offer bar-coding and tracking capabilities via RFID, allowing manufacturers and retailers to follow their pallets anywhere in the supply chain.

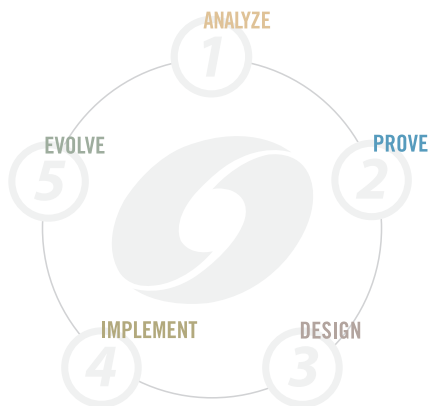
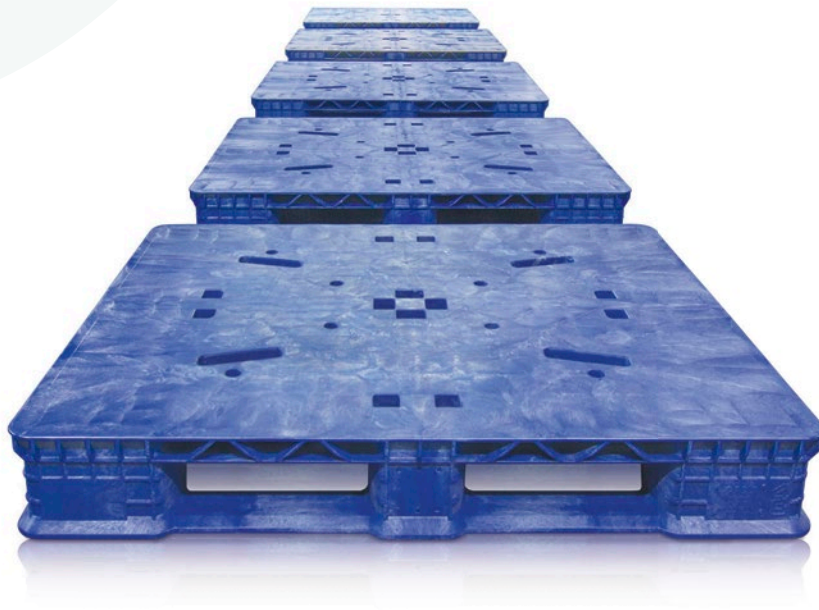
ORBIS’s plastic pallets come in three types: nestable, stackable, and rackable. Nestable pallets fit inside each other, condensing the amount of space they require. This type of pallet is often used in distribution applications.

“Grocery stores often choose nestable pallets because they are typically the least expensive, and can take a beating,” says Most. “There are no bottom runners to break off, and no bottom base, so they are easy to use in tight spaces.”

Nestable pallets can also help reduce transportation costs and gain significantly more space. “A typical truck fits about 500 wood pallets,” says Most. “But about 1,200 nestable pallets fit on a truck. That makes a huge cost difference.”

Stackable pallets are similar to wood pallets in that they are constructed with a

The path to greater profitability is only five steps long.



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bottom deck. This type of pallet is beneficial for manufacturers who double-stack loaded pallets on top of each other.

Finally, rackable pallets can go into an edge-rack application, where the edge of the pallet sits on steel or fiberglass bars with the product on top and no support underneath. Different models can bear maximum loads of 750 to 3,000 pounds.

Although he extols the virtues of plastic pallets, Most admits wood pallets will always have a place in warehouse operations.

“Wood is a good choice in some circumstances—for food companies shipping

Most suggests companies looking into automation take pallets into consideration early on. “Identifying how a new pallet fits into the automation setup is critical,” says Most. “Automating a system to specific requirements, then upgrading pallets to meet those specs, may cause a company to incur unwarranted costs.

“It is better when we work with the company and the automation builder to develop a solution that will maximize the return on investment,” he adds.

For some companies, pallet choice comes down to the storage and retrieval sys-

PECO’s logistics experts use sophisticated high-tech tools to track pallet flows throughout the network, and ensure we are able to deliver pallets on time.”

PECO Pallet strives to consistently deliver high-quality pallets and outstanding customer service. “Shippers can order pallets online for delivery within 72 hours, with no extra sorting required,” Potgieter notes. “And PECO’s fixed, all-in-one price per pallet makes budgeting easy, with no surprise charges or hidden fees.”

FUTURE ALTERNATIVES

The future holds both challenges and opportunities for the pallet industry. For example, pallet manufacturers are using other types of materials, such as aluminum, with good results. PECO is conducting ongoing research and development for both all-plastic and hybrid wood/plastic pallet models.

“Alternative pallet materials and formats continue to generate interest, especially with recent lumber price increases,” says Potgieter.

In the future, Potgieter foresees a shift away from the traditional vendor-customer relationship toward more of a partnership model. PECO Pallet already utilizes this approach, sometimes even assigning a PECO representative to work on-site at a customer’s facility. Rather than simply delivering pallets on demand, PECO’s service and operations professionals work closely with both renters and retailers to find innovative ways to reduce costs and improve efficiency throughout the entire supply chain.

“Nothing is worse than seeing a product through from inception to shipment, only to find it damaged or unusable at delivery,” says Most. “They may not get a lot of attention, but pallets are a critical logistics element. High-quality pallets are exceptionally engineered and designed products that perform as integral components of the supply chain.”

Ultimately, manufacturers must choose the pallet system that works best for their products. Fortunately, they have many options. Taking the time to weigh the pros and cons of the different options can go a long way in making transport and storage processes more efficient. ■



To streamline receiving and storage, large retailers may require suppliers to participate in a leased-pallet pooling program, such as the one operated by PECO Pallet.

products cross-country, for example,” he says. “It could be difficult and costly to get that pallet back to its origin.”

A company that uses plastic pallets, and has a system for getting them returned easily, can create a closed-loop system. “A grocery store chain, for example, can get products into its DC, divide the shipment, and send it to different stores,” Most explains. “The stores will collect the plastic pallets, then ship them back within the same controlled environment.”

AUTOMATION NATION

Another key factor to consider when choosing a pallet is current and future automation needs. E-commerce growth is driving the need for greater DC efficiency, which automation can help improve—if implemented strategically. Pallet management is an important, but often overlooked, component of that strategy.

tems its warehouse uses. Using the wrong pallets could jam warehouse equipment.

“Plastic pallets are extremely consistent in size and shape,” says Most. “Because they come out of a mold, they all weigh and look the same.”

Maintaining pallet quality is another challenge. PECO Pallet ensures the quality of its entire pallet pool by inspecting all pallets every time they cycle through a depot, using the strictest repair specifications in the industry.

Managing inventory and ensuring there are always enough pallets to meet customer demand—which can fluctuate both seasonally and regionally—can also pose a challenge to pallet providers.

“PECO Pallet has expanded throughout the United States, Canada, and Mexico,” says Potgieter. “The company now operates more than 580 strategically located depots, manufacturing sites, and storage locations.

PECO delivers **quality**



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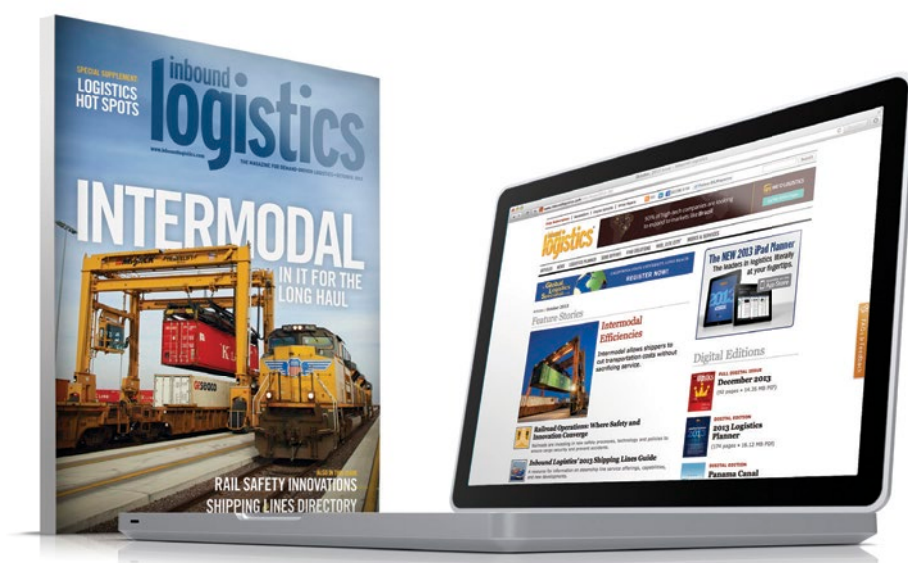
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Casebook | by Suzanne Heyn

Medical testing lab
SilverStaff's pain
points included
inbound shipment
pickup service and
visibility. UPS delivered
the remedy.

Shipment Visibility: SilverStaff Passes the Test

In the field of medical testing laboratories, large companies chisel out a competitive advantage by quickly processing specimens, setting a standard small labs must meet if they want to survive. To achieve this speed, the big players send couriers to doctors' offices to pick up patient specimens, swiftly transporting them to testing labs. Speed means fast lab results for waiting patients, whose lives may depend on the answers.

Since it opened in January 2012, SilverStaff Clinical Laboratories Inc.—a small, specialized medical testing facility in Franklin, Tenn.—had been using a shipping company instead of more expensive couriers, transporting specimens and trying to keep a competitive pace. But the carrier it used offered limited ability to track packages in transit, and couldn't service all of SilverStaff's customers, resulting in expensive stop-gap solutions.

SilverStaff's competition moves fast, and the company needed to find a new partner to keep up. The solution to its

challenge was a Web-based shipping portal for healthcare companies, run by Atlanta-based logistics provider UPS.

Identifying Pain Points

Customers in 38 states send SilverStaff specimens for genetic testing, prevention testing for cardiology patients, and other clinical laboratory services. Despite its growth, the company continues to perform testing solely out of its Tennessee facility, which makes shipping speed and visibility critical to its continued success.

"We compete with national labs that employ couriers," says Jimmy Kendrick,



chief operating officer for SilverStaff. While those couriers were picking up specimens from competitors' labs daily for near-certain delivery early the next morning, SilverStaff never knew exactly where its packages were, or when they would arrive.

"We must be able to quickly determine where specimens are in transit," Kendrick says. "We needed a partner, not just a carrier."

SilverStaff's process began when staff at customer clinics labeled specimens with handwritten waybills, and carriers picked them up for transport to Franklin.

with SilverStaff workers spending excessive time manually tracking shipments.

Not knowing exactly what inbound shipments were en route also caused delays. Each morning, SilverStaff workers arrived at the lab, sorted through all the deliveries, then checked with customer clinics to determine if any expected specimens were missing.

Developing a Cure

While SilverStaff struggled with its inbound shipping challenges, UPS was developing a laboratory logistics portal, which it planned to test through a beta

existing UPS programs such as Quantum View Manage, a Web-based shipment tracking system, with the new lab logistics portal, a cloud-based shipping interface UPS can customize to fit the needs of companies accessing it.

The UPS portal emails the lab end-of-day reports containing clinic information and specimen tracking numbers. "SilverStaff can then query Quantum View Manage to find shipment information," says Matt Morgan, UPS account executive.

Because the UPS lab logistics portal was a beta version, it underwent multiple rounds of changes, even after going live, to integrate with SilverStaff's requirements, processes, and databases, including the company's internal Laboratory Information Management System (LIMS), used to control daily workflow. Both SilverStaff and its customers track specimens with LIMS, making its compatibility with the new logistics solutions critical.

Working Out the Kinks

One early challenge SilverStaff and UPS worked through involved clinics that don't process specimens until late in the day. The LIMS directs clinic staff to print shipping labels from the UPS Web portal after processing specimens. If a clinic ordered a label after the UPS cutoff time, the specimen would not be added to the day's pickups.

To solve the problem, SilverStaff reworked the LIMS to alert clinic staff when a specimen from the previous day is still awaiting pickup. "The alert provides a link to the UPS portal, so the clinic can input the required information, request pickup, and print a shipment label," Kendrick says.

The UPS Smart Labels SilverStaff now uses represent an improvement over the old, handwritten ones, which offered little information. The computer-generated, peel-and-stick tags include bar-code-assisted tracking that reduces the labor associated with preparing and processing shipments. When a UPS driver scans the package at pickup, shipment information uploads to the logistics portal. "The labels



SilverStaff Clinical Laboratories performs specialized medical testing on specimens sent from clinics in 38 states, making inbound shipment visibility essential.

Some carriers, however, didn't offer an adequate number of pickup times in specific areas to properly serve the clinics. And for one South Carolina doctor, the carrier offered no workable pickup times, forcing SilverStaff to hire a courier in that location. Such ad hoc solutions led to inefficiency and increased costs.

Even for the majority of locations where a clinic had access to a driver, SilverStaff had no way of knowing where packages were in transit, or if a specimen's arrival would be delayed the next morning. The dearth of information stalled operations,

user program. UPS and SilverStaff started working together in September 2012, when representatives from the two companies began holding roundtable discussions and brainstorming sessions to determine how UPS's services could address the lab's problems.

"The timing was perfect," says Steve Cody, marketing manager, healthcare segment, UPS. The companies developed a strong partnership, discussing issues as they arose, and collaborating to find remedies for pain points.

Ultimately, SilverStaff combined

give SilverStaff visibility to its inbound shipments,” Cody says.

UPS and SilverStaff arranged pickup times to coordinate with various clinics’ closing times. At the end of each day, SilverStaff employees print reports listing all the specimens scheduled to arrive the next morning.

With the new system, SilverStaff gained the ability to identify packages that won’t arrive on time. The logistics portal system tells lab workers which clinics requested a driver, and the end-of-day reports verify pickup. If a clinic requested a pickup, but the shipment is not listed on the end-of-day report, the lab knows a problem has occurred and can take steps to determine the cause of the delay.

Not all of SilverStaff’s fixes were technology related. For the clinic in South Carolina that the lab’s former carrier didn’t serve, SilverStaff and UPS worked with the UPS area hub manager to reschedule driver

pickup times. For another difficult-to-reach clinic, the companies arranged to place a UPS dropbox in the parking lot.

Shipments on Track

Since implementing the system, SilverStaff has undergone rapid expansion. In 2012, the company processed as many as 1,500 tests per week; it now tests about 10,000 specimens per week. Kendrick says the new system gives him peace of mind, ensuring the tests will be tracked until their safe arrival at the Tennessee facility for processing.

From the perspective of SilverStaff’s clinic customers, the new system wasn’t a huge transition, because they continue to create labels and leave packages for pickup. The increased visibility the system offers, however, gives SilverStaff a competitive advantage.

The new system also makes it easy to train new customers remotely, supporting expansion by reducing the costs of

teaching clinics how to prepare specimens for shipping. “We gained 50 new dental clinic customers in three months during late 2013,” Kendrick says. The clinics are located nationwide, which would have made traveling to train staff cost prohibitive.

The system is capable of growing with SilverStaff, without bottlenecking the increasing number of specimens that the company will handle as its customer base expands. “As the lab manages higher volume, forecasting and staffing become more critical,” Cody says.

For Kendrick and SilverStaff, finding and integrating new systems is a vital component of business expansion. “The lab is adding capabilities, which creates new logistics challenges,” he says. “We work with our solutions providers continually to serve our customers.”

With that approach to innovation, SilverStaff tests positive for a healthy logistics operation. ■

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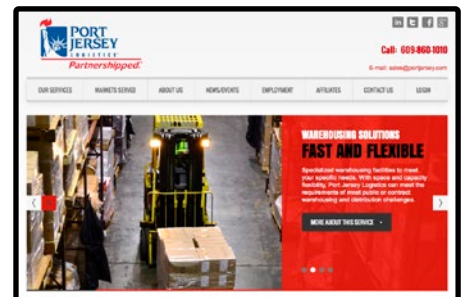


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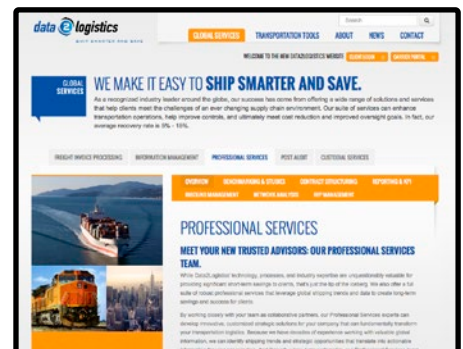
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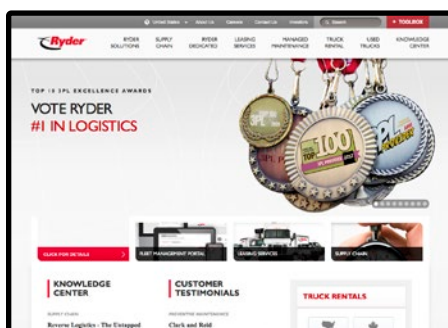
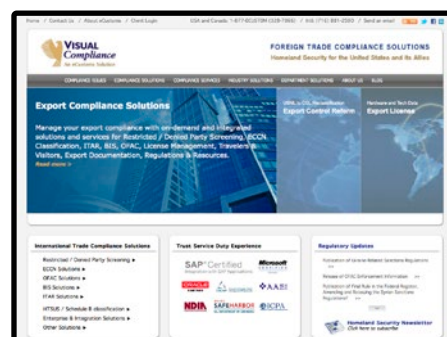
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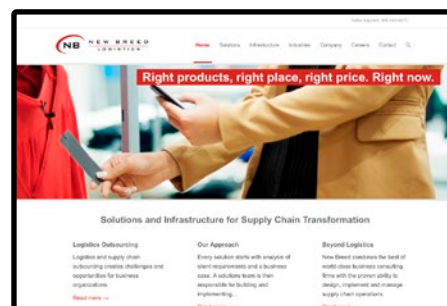
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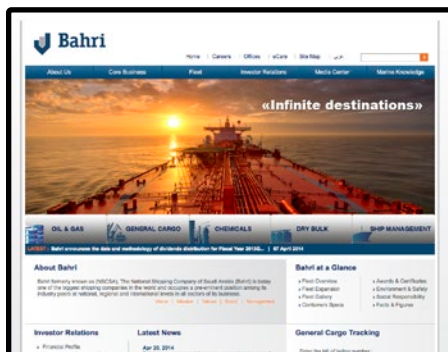
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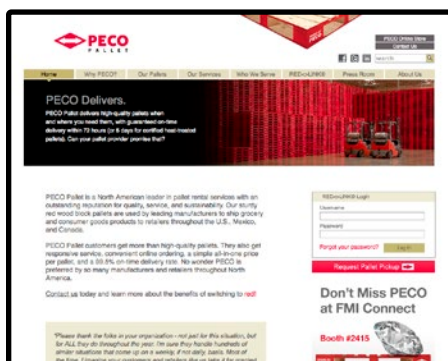
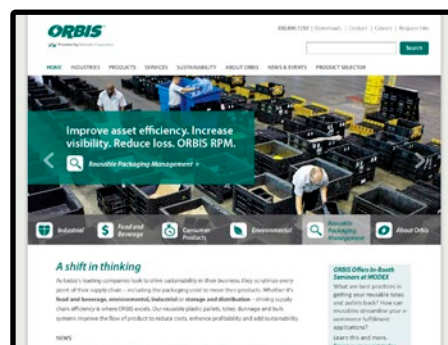
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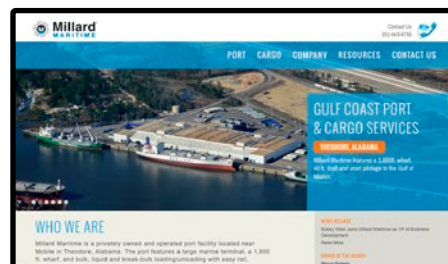
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PECO Pallet is a North American leader in pallet rental services with an outstanding reputation for quality, service, and sustainability. Leading consumer goods manufacturers utilize PECO's sturdy red wood block pallets to ship their products to grocery, warehouse, and discount retailers. PECO Pallet is headquartered in New York and maintains over 580 service centers and manufacturing plants throughout the United States, Mexico, and Canada. For more information about PECO Pallet, visit www.pecopallet.com.

PORTS

Millard Maritime • www.millardmaritime.com

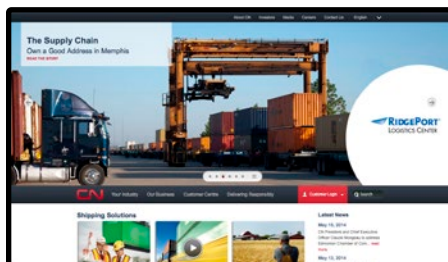
Millard Maritime is a deep water port facility located on the Theodore Channel in Mobile Bay, Alabama. The port features a large marine terminal with a 1,600-foot wharf; export and import capabilities; bulk, liquid, and break-bulk loading/unloading; and direct on-site rail with short transit to Interstates 10 and 65. With nearly 300 acres of water access, multi-use land available, Millard is interested in build-to-suit land development opportunities.



IN THIS SECTION:

Rail - Site Selection

RAIL

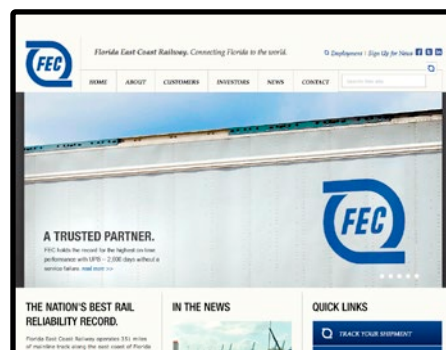


CN • www.cn.ca

CN's network of logistics parks are strategically located at the heart of North America to connect your business to world markets. Located in, or adjacent to, its intermodal rail yards, CN provides you with seamless and efficient transportation and easy access to major highways. CN provides access to all key logistics services—rail, intermodal, warehousing, distribution, CargoFlo liquid and dry bulk transload, and Autoport distribution facilities—in one location. As your supply chain partner, CN can help you find your new distribution home.

Florida East Coast Railway • www.fecrwy.com

The Florida East Coast Railway (FEC) is a 351-mile freight rail system located along the east coast of Florida. It is the exclusive rail provider for Port Miami, Port Everglades, and Port of Palm Beach. FEC connects to the national railway system in Jacksonville, Florida, to move cargo originating or terminating there. Based in Jacksonville, FEC provides end-to-end intermodal and carload solutions to customers who demand cost-effective and premium quality.



RAPID RESPONSE LOGISTICS



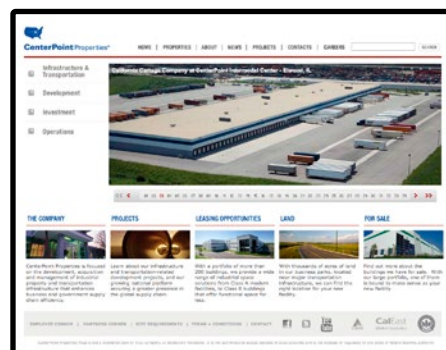
New Breed • www.newbreed.com

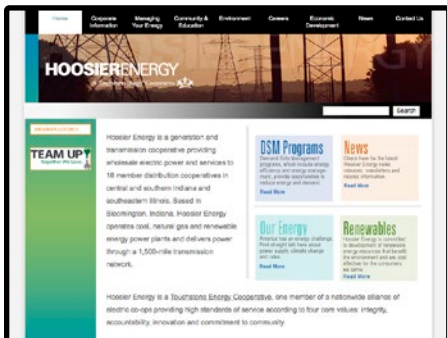
New Breed's service parts management solution enables rapid delivery of critical parts. We have been managing large, complex service parts management solutions since 1980. We have the existing parts depot network, processes, and systems to quickly implement cost-saving solutions. New Breed provides service parts management in the medical equipment, electronics, and aerospace industries.

SITE SELECTION

CenterPoint Properties • www.centerpoint-prop.com

CenterPoint Properties is focused on the development, ownership, and intensive management of industrial real estate, and related rail, road, and port infrastructure. We add value to our customers through forward-thinking solutions aimed at enhancing supply chain and operating efficiencies. We seek long-term relationships with customers, public and private business partners, internal colleagues, and the communities where we invest and operate. Member of NASCO.





Hoosier Energy • www.hepn.com

Hoosier Energy is a generation and transmission cooperative providing electric power to 17 member electric distribution cooperatives in central and southern Indiana and one member cooperative in Illinois. Based in Bloomington, Ind., Hoosier Energy operates coal, natural gas, and renewable energy power plants and delivers power through a 1,450-mile transmission network. Hoosier Energy is a Touchstone Energy Cooperative, one member of a nationwide alliance of electric co-ops providing high standards of service according to four core values: integrity, accountability, innovation, and commitment to community.

Watson Land Company • www.watsonlandcompany.com

Watson Land Company is a developer, owner, and manager of industrial properties throughout southern California. With a legacy spanning more than two centuries, Watson's dedication to customers is based on delivering functional, high-quality buildings within masterplanned centers, coupled with unmatched customer service. Watson Land Company's long-standing tradition of integrity, innovation, and fiscal responsibility has made it one of the region's most respected names in commercial real estate, and one of the largest industrial developers in the nation.



Wayne County Economic Development Authority • www.wceda.org

Wayne County, West Virginia, is open for business, located within 500 miles of half the population of the United States and one-third that of Canada. The Wayne County Economic Development Authority Inc. (WCEDA) was established to promote, develop, and expand all types of business and industrial activity. This activity will advance and maintain the economic basis of Wayne County. The pursuit of these activities will provide opportunities for employment and improvements in the standard of living for the citizens of Wayne County.

TMS

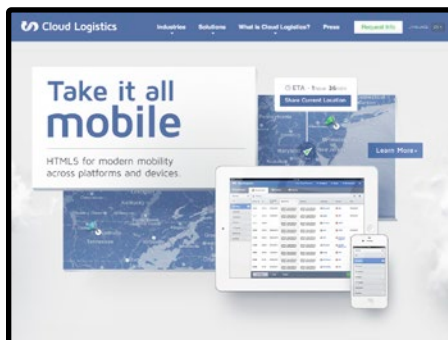
3GTMS • www.3gtms.com

3GTMS is a developer of transportation software for LSPs and shippers. This third generation of TMS—delivered on a single cloud or on-premise platform—is designed for transportation professionals by the experts who invented TMS, and have now reinvented it offering an easy-to-use solution that simplifies inbound and outbound transportation planning and execution.



IN THIS SECTION:

TMS

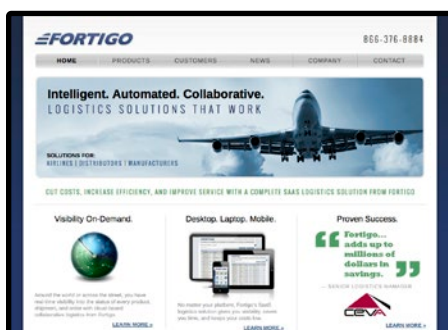


Cloud Logistics • www.gocloudlogistics.com

Cloud Logistics offers the newest generation of transportation logistics solutions for the global supply chain market. Cloud Logistics makes the complexities of order collaboration, communication, and international transportation management simple for companies of any size to benefit from its patent-pending configurable workflow architecture, unique user experiences, alerts, dashboard widgets, and ad-hoc reporting – all delivered in a cloud-based network. Social technology for business allows each person involved with an order or shipment the ability to attach documents, claims photos, and proof of delivery signatures within a private, secure community.

CT Logistics • www.ctlogistics.com

CT Logistics can help you save money, no matter your company's size. For small and medium-sized shippers, CT Logistics offers its TranSaver shipper cooperative buying program. Larger shippers can simplify their freight spending with CT Logistics' exclusive FreightRater freight bill rating and processing system. And businesses of all sizes can benefit from AuditPay freight payment services. Add to these offerings a wealth of online collaboration and reporting tools, and it's easy to see why shippers have trusted CT Logistics with their freight payment needs for more than 86 years.

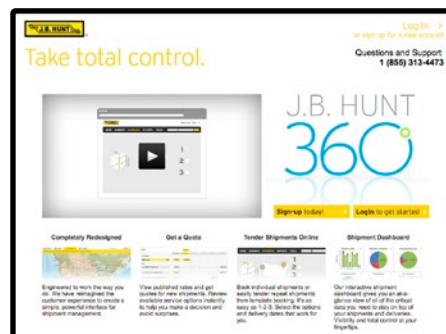


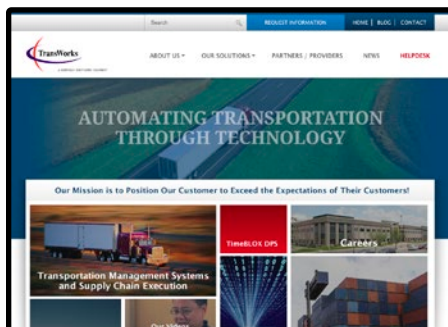
Fortigo • www.fortigo.com

Fortigo's team of experts specializes in logistics optimization and enterprise Web-based software. For companies seeking to reduce costs, improve customer satisfaction, and increase profitability, Fortigo automates, optimizes, and audits logistics decisions. Fortigo plugs into established supply chain applications and provides rapid return on investment by optimizing and deploying closed-loop logistics processes, minimizing ship-to-order times and streamlining collaboration with logistics providers.

J.B. Hunt Transport Services • www.jbhunt.com/360

J.B. Hunt 360 is a customer TMS that removes complexities from your supply chain origin-to-delivery management tasks, giving you complete control and visibility with unparalleled expertise and support to back it up. No more wondering, no more waiting. Visit www.jbhunt.com/360 for details.





TransWorks • www.trnswrks.com

TransWorks offers fully integrated TMS/Supply Chain Execution solutions that automate transportation processes and provide instant savings without capital investment. We accomplish this by leveraging the best technology, and seamlessly integrating it with our customers' ERP platform. TransWorks has consistently delivered the best TMS solutions, and enables our customers to communicate more effectively with their carriers and customers. *Inbound Logistics* Top 100 Logistics IT Provider since 2006.

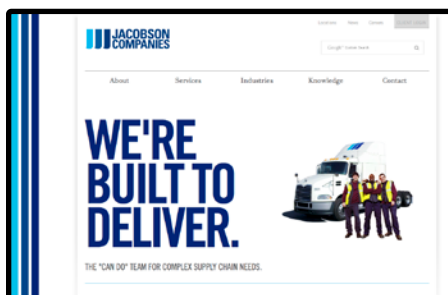
TRANSPORTATION MGMT/FREIGHT MGMT

Echo Global Logistics • www.echo.com

Echo Global Logistics is a leading provider of technology-enabled transportation management outsourcing. Our proprietary Web-based technology, dedicated service teams, and robust procurement power enable our clients to achieve significant transportation efficiencies while receiving best-in-class service. We take the complicated out of transportation management for our clients. Our team of talented people is creating outstanding results for clients and investors alike. Our transportation, logistics, information technology, and service professionals collaborate to ensure our clients' success. We provide transportation and logistics solutions for more businesses in more locations than ever before.



WAREHOUSING



Jacobson Companies • www.jacobsonco.com

Jacobson Companies is a leading third-party logistics company providing end-to-end supply chain solutions that include warehousing and distribution, contract packaging and manufacturing, freight management, customs brokerage, and international ocean and air freight forwarding. Jacobson can offer expertise in a wide range of industry verticals including food and beverage, consumer packaged goods, chemicals, healthcare/life sciences, durable goods, consumer electronics, retail, and industrial/automotive. What can we do for you! Contact us today at 800-636-6171 or visit our website at www.jacobsonco.com.

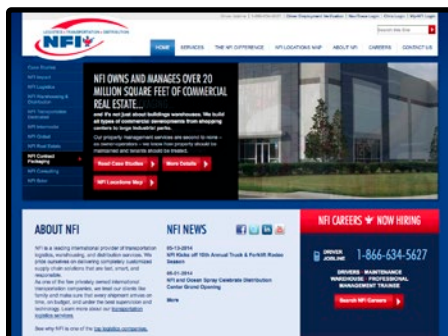
Kenco Logistic Services • www.kencogroup.com

Adding value to your bottom line? That's the mission of Kenco Logistic Services. For more than 50 years, Kenco Logistic Services has guided some of the most demanding supply chains in the world. Kenco's convergence approach can help you streamline your supply chain, and bring a greater return on assets and investments. Kenco invites you to visit this Web site so that you might get to know its services. Then, contact Kenco so that you might truly understand its unique strategic advantages.



IN THIS SECTION:

Warehousing

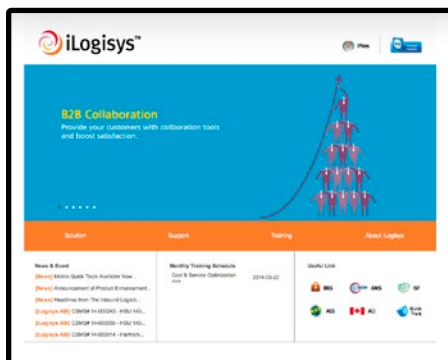


NFI Industries • www.nfiindustries.com

NFI is a fully integrated supply chain management provider offering dedicated fleets, logistics, distribution, warehousing, intermodal, global, commercial and industrial real estate, consulting, transportation brokerage, and solar services across the U.S. and Canada. NFI owns facilities nationwide and globally, more than 2,000 tractors, and more than 7,000 trailers. Privately held by one family since its inception in 1932, NFI operates 20+ million square feet of contract and public warehouse and distribution space, and generates more than \$1 billion in revenue annually. NFI is an EPA Smartway Transport and WasteWise Partner and is dedicated to increasing energy efficiency and reducing the impact of the freight industry upon the environment.

Pacific Coast Warehouse Company • www.pcwc.com

Pacific Coast Warehouse Company (PCWC) is a third-party logistics provider based in California, with more than 70,000 food grade rack and bulk pallet storage positions in the southern and northern California markets. PCWC offers a complete line of warehousing and value-added services, as well as all levels of transportation service, including drayage, intermodal, full truckload, flatbed, and LTL. For more information about Pacific Coast Warehouse Co., visit www.pcwc.com.



Suntek Systems • www.ilogisys.com

Suntek provides its logistics management software, *iLogisys*, for freight forwarders, NVOCCs, 3PLs, and customs brokers. As the company's flagship solution, *iLogisys* offers simple and efficient methods of logistics operation, collaboration tools between related parties, extensive supply chain visibility, B2B EDI connectivity, and more control over business management. The cost-effective and feature-rich *iLogisys* products boost your customer satisfaction, and increase sales opportunities for business growth.

Synergy Distribution LLC • www.synergystorage.com

Centrally located in the freight hub of Kansas City, Missouri, Synergy Distribution can offer you a simple, low-cost solution for your distribution needs. From general warehousing to fulfillment, we can help you get your products to your customers. We offer warehousing, fulfillment, consolidation, returns, kitting, e-fulfillment, and local delivery. We can customize our processes to fit any situation.



WhitePaperDigest

Industry experts amass supply chain management best practices and skill sets, and invest in new research and evaluation tools. Now you can benefit. *Inbound Logistics* has selected this collection of whitepapers that will give you a jump on important supply chain issues. For more information on any of these whitepapers, visit the Web sites listed below.



Weber Logistics

TITLE: *Pool Distribution: Shippers of Temperature-Controlled Freight Collaborate to Save*

DOWNLOAD: bit.ly/1u428FT

SUMMARY: Shippers of temperature-controlled freight, particularly those that ship smaller orders, continue to rely on national less-than-truckload (LTL) carriers for deliveries across the United States. Instead, they should consider a pool distribution strategy that consolidates freight with like shippers, and delivers it in truckload volumes directly to key markets – no stops – for final-mile service. This paper covers the benefits and keys to success in implementing such a strategy.

Tompkins Supply Chain Consortium

TITLE: *Aligning Supply Chains with Business Strategy*

DOWNLOAD: bit.ly/OL12AA

SUMMARY: Nearly 80 percent of respondents to a recent Tompkins Supply Chain Consortium survey believe that supply chain is an enabler of business strategy. *Aligning Supply Chains with Business Strategy*, a new report based on the survey findings, explores how companies can overcome alignment challenges to build stronger bridges.

Softeon

TITLE: *Is Now the Time for Cloud WMS?*

DOWNLOAD: bit.ly/1mmSfQc

SUMMARY: Warehouse Management Systems (WMS) have been late to the cloud game, and suitable only for simple DC operations. The times have changed. Cloud-based supply chain solutions are rapidly gaining share, and will likely prove the dominant approach in just a few years. Learn how the barriers to warehouse management in the cloud are dropping, and why companies are taking advantage of its power right now.



Saddle Creek Logistics Services

TITLE: *Incorporating Quality Management in a Logistics Environment*

DOWNLOAD: bit.ly/1kt3OPp

SUMMARY: While the concepts of total quality management and continuous improvement have been around for decades, they have only recently been applied successfully in logistics environments. This report explores how companies can control costs, improve visibility, increase speed to market, and strengthen their businesses by making total quality management (TQM) part of their logistics operations.

Accellos

TITLE: *The Next Generation of the Supply Chain Elite - 4PL Providers*

DOWNLOAD: bit.ly/1fEScP0

SUMMARY: This whitepaper discovers how the next generation of supply chain executors will enable 3PL providers and shippers to strengthen their partnerships. Topics discussed in this whitepaper include:

- How a 3PL becomes a 4PL
- The 4PL model
- Key responsibilities and associated benefits of 4PLs
- Best-of-breed technology for 4PLs
- Supply chain planning and execution terminology
- Five keys to forging a successful 4PL partnership



Accelrys

TITLE: *Best Practices for Chemical Inventory Management*

DOWNLOAD: bit.ly/SitnhI

SUMMARY: One of the most persistent challenges to research organizations is efficient chemical inventory management. Material isn't where it should be. There's not enough for research. Inventory reports aren't correct. When chemical inventory reports are inaccurate, and research materials aren't available, the entire lab suffers. There's a solution. This whitepaper examines the reasons why systems fail or succeed, as well as best practices that optimize chemical inventory workflows to ensure accurate inventory data.

C3 Solutions

TITLE: *Getting Started With Auditing and Scorecarding*

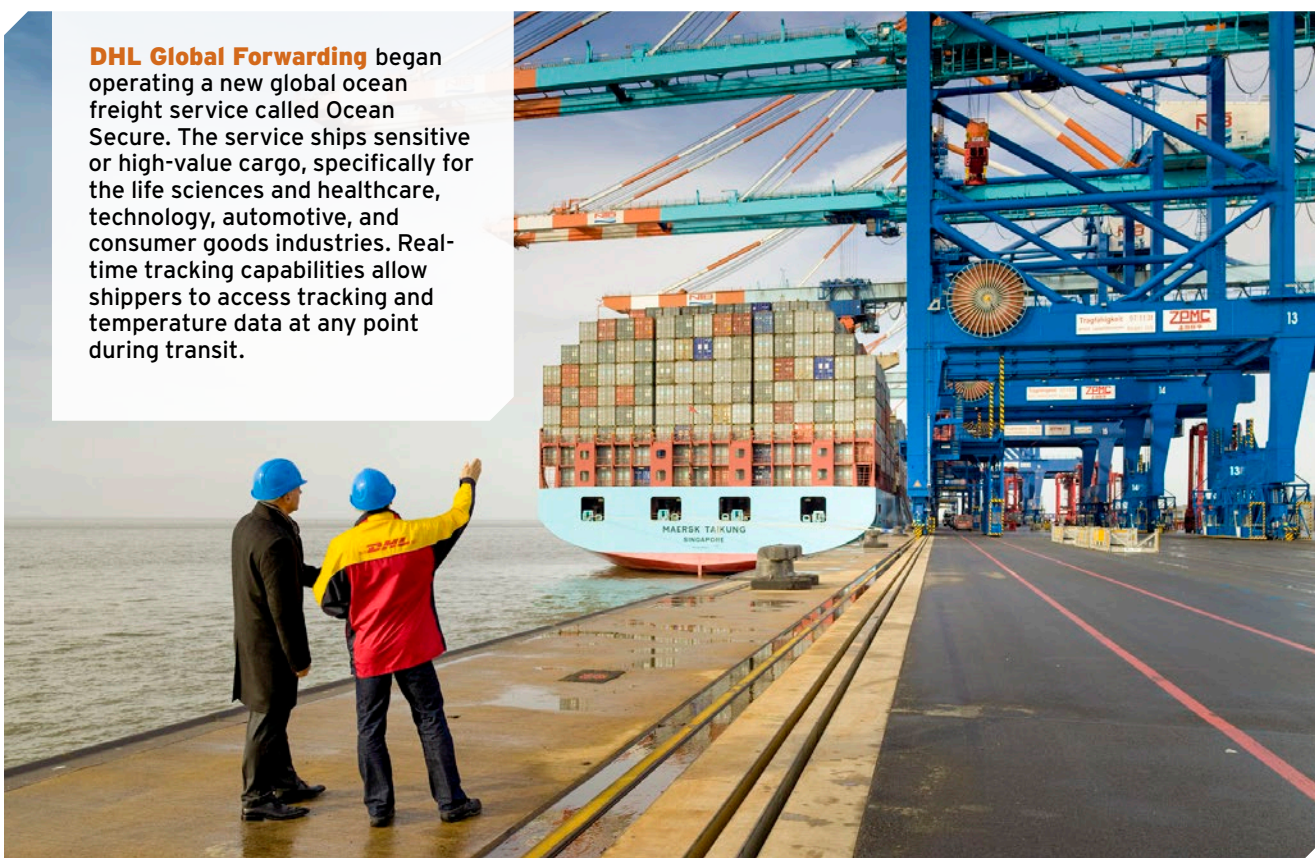
DOWNLOAD: bit.ly/QnKL3f

SUMMARY: The purpose of this eBook is to help companies demystify the complexity surrounding the implementation of a vendor compliance program. It answers the following questions: Why conduct receiving audits and compile scorecards? Where should you start? How do you set continuous improvement objectives? How do you conduct your receiving audit? You'll also learn how to weight the scorecard, and use the audits to manage chargebacks. Download this eBook and discover simple ways to successfully implement a receiving audit and scorecarding process.

Share your whitepaper with /L readers!

WhitePaper Digest is designed to bring readers up-to-date information on all aspects of supply chain management. We're building a database of SCM whitepapers, and you can help. E-mail us with whitepaper recommendations: editorial@inboundlogistics.com

DHL Global Forwarding began operating a new global ocean freight service called Ocean Secure. The service ships sensitive or high-value cargo, specifically for the life sciences and healthcare, technology, automotive, and consumer goods industries. Real-time tracking capabilities allow shippers to access tracking and temperature data at any point during transit.



//Services//

Global third-party logistics companies **Agility Logistics Solutions** and **Rockfarm Supply Chain Solutions** entered into a joint venture, **Agility Domestic Solutions**. The new business division offers Agility's U.S. customers network optimization, carrier procurement, shipment and order management, freight audit and payment, and tailored logistics solutions.

Intermodal drayage provider **ASF Intermodal** opened a terminal in Hutchins, Texas. Five trucks currently operate out of the new facility, and ASF plans to expand to 20 trucks in the near future.

Transportation and logistics company **American Fast Freight** opened a cargo facility on Alaska's Kodiak Island. Located two miles from the Port of Kodiak, the 6,000-square-foot terminal

offers direct access for deliveries via 40-foot containers, flat racks, and temperature-controlled trailers. A dedicated fleet of trucks operating out of the new location provides last-mile service across the island.

Old Dominion Freight Line relocated its Baton Rouge, La., service center to a larger and more centrally located facility. The 23-door building allows the LTL carrier to provide direct service to

southeastern Louisiana, and to handle cargo coming through the Port of Greater Baton Rouge.

Supply chain management provider **CEVA Logistics** opened a warehouse with foreign trade zone status in Miami. The new facility's compliance-controlled area spans 4,172 square feet, and utilizes U.S. Customs and Border Protection's two approved inventory control systems.

Estes Express Lines, a freight transportation company, opened a 24-door freight terminal in Oswego, Ill. The facility is the company's seventh facility in Illinois, and accommodates growing demand in the Chicago metropolitan area and the Midwest region.

UPS added space to three North American facilities to improve its network and transit times. The expediter

added 151,000 square feet to its Hebron, Ky., campus; 309,000 square feet to its Mira Loma, Calif., location; and 18,000 square feet to its healthcare space in Calgary, Alberta, Canada.

Global supply chain management company **SDV** expanded its presence in Southeast Asia with a new facility in Yangon, Myanmar. The new location serves the oil and gas, telecom, healthcare, fashion, and retail industries.

ADVERTISEMENT PRODUCT SHOWCASE

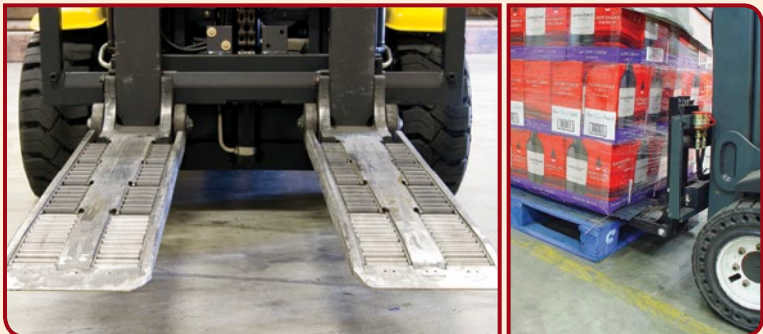
ROLLERFORKS® FOR PALLET-LESS HANDLING

RollerForks® are purpose built forklift tines designed to make pallet-less handling possible while retaining the versatility for use as conventional forks. This innovative solution provides a cost effective alternative to hydraulic push-pull type attachments commonly used for handling slip-sheeted goods. Lower investment cost, decreased handling cycle times and ease of operation are welcomed savings benefits enjoyed by end users.

Unlike other lift truck attachments, RollerForks® do not hinder operator visibility, they do not require hydraulics and they have little if any, effect on truck capacity. What's more, they are easy to use and virtually maintenance free.

Pallet-less shipping not only eliminates the need and expense of outbound pallets, it allows for maximum cube utilization within containers or trailers. By reducing overall weight, freight costs can also be minimized as fuel consumption is lowered.

RollerForks® also help food processors and pharmaceutical manufacturers reduce contamination risks by receiving inbound goods on slip-sheets instead of pallets. The RollerForks make it easy to receive these goods and place them onto captive plastic or aluminum load carriers and the same forks can then be used to transport and store the in-house pallets. RollerForks® add value in the form of versatility.



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Less-than-truckload provider **Southeastern Freight Lines** opened a new 49-door service center in Orange, Texas. The new facility reduces transit time between existing service centers, and allows more freight handling in the region.

Eastern Connection, a regional parcel carrier serving the East Coast, relocated its corporate headquarters to Cumberland, R.I. The 30,000-square-foot building combines the company's Worcester, Mass., and Providence, R.I., facilities into one location.

//Transportation//

CaroTrans expanded its less-than-containerload and full containerload services between the United States and France by adding a direct, weekly New York-to-Marseilles service. The new route reduces transit times and costs to nearby major markets, including Lyon, Nice, and Toulouse.

Global transport provider **United Arab Shipping Company** added an Asia-Mediterranean service, expanding upon its existing routes to improve port coverage. The new AMC2 route offers direct calls from Pusan to Italy and Spain, and wider coverage from South China.

RoRo shipping specialist **Wallenius Wilhelmsen Logistics** added the Port of Novorossiysk as an entry port into Russia to provide shippers in Asia direct access to the Russian Black Sea region. The service also has feeders serving the East Mediterranean ports of Piraeus and Derince.

Yusen Logistics started running a South East Asia Link (SEAL) cross-border trucking route, providing full truckload and less-than-truckload services between Singapore, Malaysia, Thailand, Cambodia, and Vietnam. The SEAL service operates five times weekly between Singapore and Malaysia, and runs two to three times per week

connecting Malaysia with Thailand, Cambodia, and Vietnam.

Kuehne + Nagel began offering new less-than-containerload reefer services from Europe to Australia. The 3PL collects shipments from across Europe, consolidates them at a facility in Rungis, France, then ships directly from the Port of Le Havre to Melbourne.

//Technology//

Jump Technologies released an add-on to its *JumpTrack* proof-of-delivery solution. *JumpTrack Optimization* reorders a list of stops into an optimized delivery sequence, helping fleet managers streamline routes and conserve miles, schedule times for restricted deliveries, and notify customers when delivery is completed.

Supply chain solutions provider **Logility's Voyager Solutions 8.5** offers flexible deployment options including Software-as-a-Service, hosted, and on-premise. The new version features improved scalability to support broad product portfolios and complex global supply chains. New solution-wide supply chain analytics allow users to compare multiple planning scenarios to make fully informed decisions.

TripPak Services, a provider of documentation solutions, released *TripPak MOBILE 7.0*, the latest update to its document submission mobile app for carriers. The upgrade reduces the steps for document capture and submission, and includes an updated user interface, a bar-code reader, and custom application development enabling fleets to use their own branding on the app.



ProTrans, a third-party logistics company, opened a 222,000-square-foot, 100-door facility in Laredo, Texas. From the new facility, ProTrans offers freight consolidation, materials management, fulfillment, border processing, bonded warehouse space, and customs brokerage services.

Transportation software provider **Rand McNally** updated the navigation information and software for its series of fleet management devices. The update includes more than 50,000 changes that impact routing, restrictions, and clearances; and specialty Hours-of-Service changes for trucks traveling between the United States and Canada.

Vehicle routing and scheduling solutions provider **Paragon Software Systems'** *Paragon HDS* integrates multi-channel ordering and delivery booking with real-time route scheduling. The software routes each order as it is placed, allowing fleets to offer more narrow delivery windows.

//Products//

Hyster Company's W45ZHD walkie pallet truck features an ergonomic, shortened, mid-mounted handle to move the operator closer to the truck, maximizing both visibility and maneuverability. The walkie's thermoplastic elastomer cover, heavy-duty torsion bar, and casted yokes allow for operation in harsh conditions.

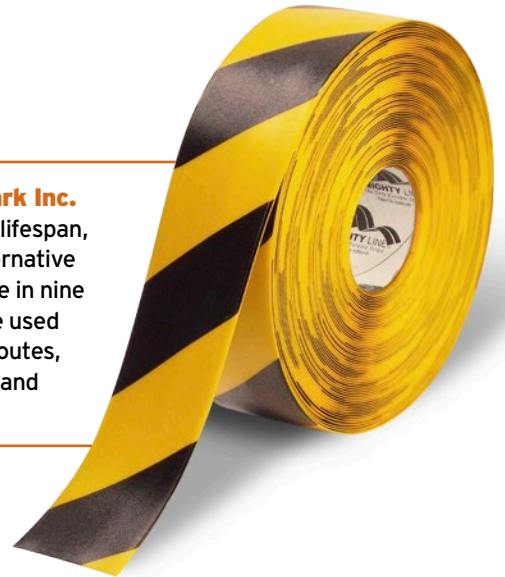
W&H Systems, a materials handling software and solutions provider, released a Smartwatch that operates with its *Shiraz* warehouse control system. Managers can review key performance indicators, operations reports, emails, voicemails, text messages, and notifications on their wrist, allowing them to make real-time informed decisions without having to go into the warehouse.

CAT Lift Trucks' DP70N 15,500-pound-capacity pneumatic tire forklift features an 18-percent increase in fuel efficiency

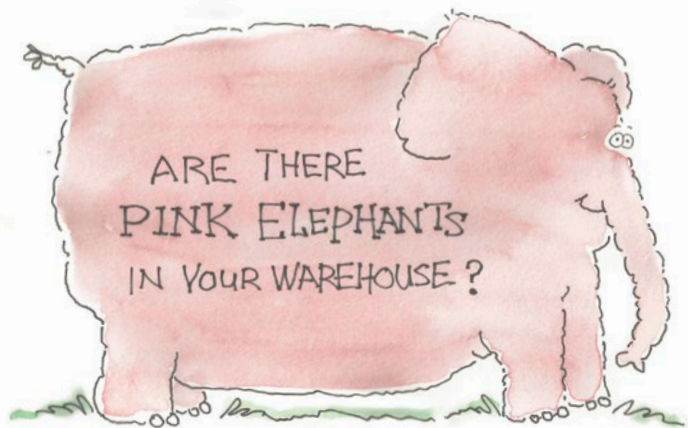
Mighty Line floor tapes from **Shieldmark Inc.** can be applied quickly, and have a long lifespan, making them a less labor-intensive alternative to floor painting. The tapes, which come in nine colors and four standard widths, can be used to mark equipment, hazards, and exit routes, or to organize inventory in distribution and manufacturing operations.

and reduced emissions compared to previous models.

The AT27Q-SB bar-code scanner from **DENSO ADC** scans 1D and 2D bar codes and is Bluetooth-enabled, allowing for communication with smartphones, tablets, and computers. A high-speed shutter eliminates camera shake, allowing scanning from any direction, while anti-reflection technology enables bar-code reading on mobile phone LCD screens.



Knighted Software, a subsidiary of materials handling solutions provider Intelligrated, released the *RTS Trak3 cL* pick-to-light system, which can scale to meet increased capacity requirements, and can augment existing WMS or ERP systems to provide advanced planning, management, and reporting tools to optimize light-directed operations.



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Intermodal Association of North America

Intermodal EXPO 2014

www.intermodalEXPO.com | Long Beach, Calif. | SEPT 21-23

AUDIENCE: Supply chain, logistics, and transportation professionals

FOCUS: Intermodal economic environment, sales, and new business opportunities; intermodal operations; small business support; products and services exhibition

JULY 16, 2014 New York, N.Y.

Institute for Supply Management

ISM Risk Management Summit

www.ism.ws

AUDIENCE: Supply chain and procurement professionals

FOCUS: Identifying and overseeing critical risks, gaining visibility into the supply chain, effective communication, strategy implementation

SEPT 29-OCT 1, 2014 Dallas, Texas

The Customized Logistics and Delivery Association

PARCEL Forum '14

www.parcelforum.com

AUDIENCE: Parcel industry stakeholders

FOCUS: Parcel industry case studies and educational tracks; regional carrier, warehousing, and materials handling exhibition

OCT 5-7, 2014 Las Vegas, Nev.

Supply Chain Operations Private Exposition

SCOPE Fall

www.scopefall.com

AUDIENCE: Supply chain, logistics, operations, procurement, materials handling, and transportation professionals

FOCUS: The role of leadership in supply chain excellence, optimizing your distribution network while reducing costs, finding the right 3PL for your business, engineering your supply chain for growth

OCT 19-21, 2014 New Orleans, La.

The Association for Operations Management

APICS 2014

www.apics.org

AUDIENCE: Supply chain, logistics, and operations management professionals

FOCUS: Operational efficiency, risk and resiliency, business analytics, supply chain innovation, supply chain exhibition

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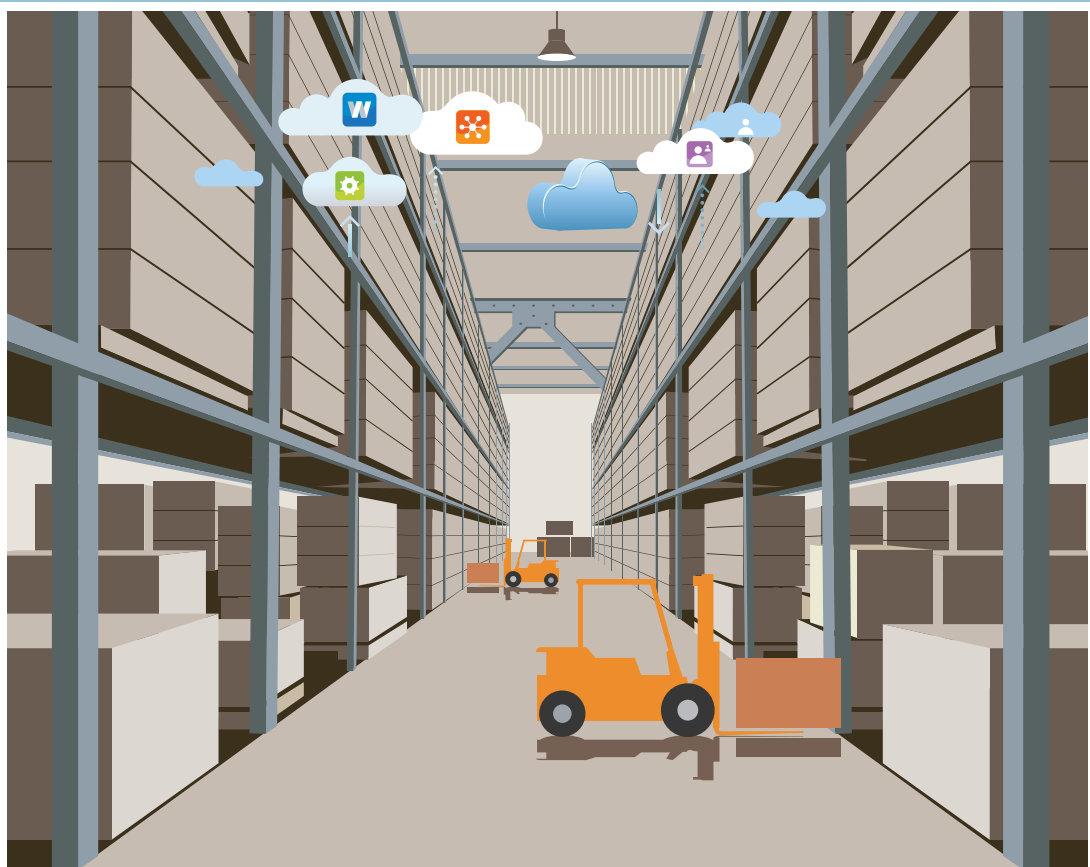
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